

NOTES ON THE GENUS *CLERODENDRUM* (VERBENACEAE). XIV

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CLERODENDRUM Burm.

Additional & emended bibliography: Reichard, Linn. Syst. Pl. 3: 198. 1790; P. Mill., Gard. Dict., ed. 9, 1: *Clerodendrum*. 1797; Willd. in L., Sp. Pl., ed. 4 [5], 3 (1): 381--388. 1800; Lindl., Edwards Bot. Reg. 30 [ser. 2, 7]: 19. 1844; Paxt., Mag. Bot. 13: 115, 217, 218, & 275. 1847; Turcz., Bull. Soc. Imp. Nat. Mosc. 36 (2): 207--208 & 218--222. 1863; Pritzel, Icon. Bot. Ind. 1: 23. 1866; Aschers. in G. Schweinf., Beitr. Fl. Aethiop. 1: 119 & 278. 1867; Hereman, Paxt. Bot. Dict. 13. 1868; Benth. in Benth. & Hook. f., Gen. Pl. 2 (1): 632 (1876) and 2 (2): 1155--1156. 1876; Schinz, Verhandl. Bot. Ver. Brandenb. 3: 205--206. 1890; C. B. Clarke in Schmidt, Bot. Tidsskr. 26: 173--174. 1904; F. N. Williams, Bull. Herb. Boiss., ser. 2, 5: 431. 1905; Sim, For. Fl. Cape Colony 286, pl. 120. 1907; O. E. Schulz in Urb., Synb. Antill. 6: 68--69. 1909; Rübsaamen, Marcellia 10: 106, fig. 9 & 10. 1911; Dalla Torre, Justs Bot. Jahresber. 39 (1): 1328. 1913; Perrot & Hubert, Bull. Sci. Pharm. 21: 449. 1914; Lévl., Cat. Pl. Yun-nan 277. 1917; Firminger, Man. Gard. India, ed. 6, 2: 386--387. 1918; Chung, Mem. Sci. Soc. China 1 (1): 228. 1924; Chiov., Fl. Somalia 1: 49, 60, & 63. 1929; Stapf, Ind. Lond. 1: 79. 1929; Wehmer, Pflanzenst. 2: 1024--1025. 1931; P'ei, Verbenac. China 1, 2, 5, & 122--162, pl. 24--29. 1932; Mold., Brittonia 1: 354, 437, 468--469, & 472. 1934; E. D. Merr., Brittonia 2: 197. 1936; E. D. Merr., Journ. Arnold Arb. 19: 64--65. 1938; Fedde & Schust., Justs Bot. Jahresber. 59 (2): 416, 515, & 692. 1939; Calderón & Standl., Fl. Salvad., ed. 2, 236. 1941; E. D. Merr., Brittonia 4: 171. 1941; Guillaumin, Fl. Anal. Synop. Nouv.-Caled. 305. 1948; Backer, Beknopte Fl. Java 9: 2, 30, & 45. 1949; Wild, Rhodes. Agric. Journ. 49: 289. 1952; Wild, Veg. South. Rhodes. Term. 11. 1952; Wild, Vict. Falls Handb. 158. 1953; Pardy, Rhodes. Agric. Journ. 52: 414. 1955; Wild, Observ. Veg. Sabi 8. 1955; Wild., Rhodes. Agric. Journ. 52: 538. 1955; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Ind. 1955: 63. 1956; Alain in Leon & Alain, Fl. Cuba, imp. 1, 4: 280, 299, 301, 310, & 319--322, fig. 138. 1957; Coates & Palgrave, Trees Cent. Afr. 427--[429]. 1957; Mold., Phytologia 6: 276 (1958), 6: 453--454 (1958), and 7: 76 & 79. 1959; G. Taylor, Ind. Kew. Suppl. 12: 26, 36, & 76. 1959; Mold., Phytologia 7: 458. 1961; Rao & Rabha, Bull. Bot. Surv. India 8: 301. 1966; C. A. Sm., Comm. Names S. Afr. Pl. 601. 1966; Hocking, Excerpt. Bot. A.11: 504. 1967; Mold., Biol. Abstr. 49: 4199. 1968; Greenway, Journ. East Afr. Nat. Hist. Soc. 27: 196. 1969; Hyland, U. S. Dept. Agric. Pl. Invent. 173: 4. 1969; Liogier, Fl. Cub. Supl. 124. 1969; Van der Schijff, Check List Vasc. Pl. Kruger Natl. Park 81. 1969; Gillett, Numb. Check-list Trees Kenya 46. 1970; Debray in Debray, Jacquem., & Razafind., Contrib. Invent. Pl. Medic. Madag. 1: 34. 1971; Farnsworth, Pharmacog. Titles 7 (7): iii & 395. 1972; Poisson & al., Ann. Pharm. Franç. 30: 241--254. 1972; Alain in

Leon & Alain, Fl. Cuba, imp. 2, 2: 280, 299, 301, 310, & 319--322, fig. 138. 1974; [Farnsworth], Pharmacog. Titles 7, Cum. Gen. Ind. [31]. 1975; Hocking, Excerpt. Bot. A.28: 260. 1976; Mold., Phytologia 39: 273. 1976; Prasad, Mehta, Dave, & Suma, Indian Journ. Exp. Biol. 18: 1524--1525. 1980; Chrabarti & Mondal, Acarologia 21: 396--407. 1981; Chrabarti & Mondal, Biol. Abstr. 72: 343. 1981; Pal, Bull. Bot. Surv. India 22: 96--99. 1982; Capote & García, Revist. Jard. Bot. Nac. 4: 48 & 118. 1983; Pal, Biol. Abstr. 75: 584 & 9495. 1983; Mold., Phytologia 59: 234--268. 1986.

CLERODENDRUM DISCOLOR var. *VERBASCIFOLIUM* Mold.

Additional bibliography: Mold., Phytologia 59: 268. 1986.

This variety is based on A. Peter 32288 from between Mission Selesiens and Lugongo, in the Uluguru Mountains above Morogoro, Tanganyika, collected on November 19, 1925, and deposited in the Berlin herbarium, now probably destroyed. The sheet was annotated as *Clerodendron verbascifolium* n. spec." by "E. W[all?]" and as "*Clerodendrum* (*Cyclonema*) sp." by J. B. Gillett at Kew. where, he avers, it cannot be matched.

Peter states that the corolla-tube is about 1 cm. long, the lobes unequal, and comments that the plant is related to *C. ternatum* Schinz, but the leaves are more or less petiolate, larger, and densely hairy on both surfaces. Thus far it is known to me only from the original collection.

Citations:TANZANIA: Tanganyika: A. Peter 32288 [V.70] (B--type, Ld--isotype).

CLERODENDRUM DISPARIFOLIUM Blume, Bijdr. Fl. Ned. Ind. 14: 809. 1826

[not *Clerodendron disparifolium* Bakh., 1938, nor Hassk., 1921].

Synonymy: *Clerodendron disparifolium* var. *foliis obsolete denticulatis* Blume, Bijdr. Fl. Ned. Ind. 14: 109. 1826. *Clerodendron acuminatum* Wall., Numer. List [49], no. 1792 hyponym. 1829; Schau. in A. DC., Prodr. 11: 662. 1847. *Clerodendron jackianum* Wall., Numer. List [49], no. 1794 hyponym. 1829. *Clerodendron jackianum* Wall. apud W. Hook., Bot. Misc. 1: 284. 1830. *Clerodendron acuminatum* Wall. apud Steud., Nom. Bot. Phan., ed. 2, 1: 382. 1840. *Clerodendron sackeanum* Wall. ex Walp., Repert. Bot. Syst. 4: 114. 1845. *Clerodendron eriosiphon* Schau. in A. DC., Prodr. 11: 662. 1847. *Clerodendron disparifolium* Blume apud Hassk., Retzia 57. 1855. *Clerodendron obtusidens* Miq., Fl. Ned. Ind. 2: 870. 1856. *Clerodendron disparifolium* f. *prianganense* Bakh. ex Mold., Résumé 190 & 449 nom. nud. 1959. *Clerodendron dispar* Geesink & Santisuk ex Mold., Phytol. Mem. 2: 385 in syn. 1980. *Clerodendron disparifolium* Kochum. ex Mold., Phytol. Mem. 2: 385 in syn. 1980. *Clerodendron disparifolium* p *denticulatum* Hort. ex Mold., Phytol. Mem. 2: 385 in syn. 1980. *Aterodendron diversifolium* Vahl, in herb. *Clerodendron disparifolium* f. *coriaceum* (Miq.) Bakh., in herb. *Clerodendron disparifolium* f. *eriosiphon* (Schau.) Bakh., in herb. *Clerodendron disparifolium* var. *prianganensis* Bakh., in herb. *Clerodendron eriosiphon* var. *coriacea* Miq., in herb.

Bibliography: Jack, Malay. Misc. 1, imp. 1, 17. 1820; Blume,

Bijdr. Fl. Ned. Ind. 14: 809. 1826; Wall., Numer. List [49], no. 1792 & 1794. 1829; W. Hook., Bot. Misc. 1: 284. 1830; Steud., Nom. Bot. Phan., ed. 2, 1: 382 & 383. 1840; D. Dietr., Syn. Pl. 3: 617. 1843; Walp., Repert. Bot. Syst. 4: 104--105, 109, 113, & 114. 1845; Schau. in A. DC., Prodr. 11: 662, 664, & 672. 1847; Hassk., Retzia 57--58. 1855; Buek, Gen. Spec. Syn. Candoll. 3: 105 & 106. 1858; Miq., Fl. Ned. Ind. 2: 869--873. 1858; C. Muell. in Walp., Ann. Bot. Syst. 5: 710--711. 1860; Miq., Fl. Ind. Bat. Suppl. 1: 242. 1861; Bocq., Adansonia, ser. 1 [Baill., Rec. Obs. Bot.], 3: 214. 1863; Naves & Fern.-Villar in Blanco, Fl. Filip., ed. 3, 4: Nov. App. 160. 1880; C. B. Clarke in Hook. f., Fl. Brit. India 4: 589--590. 1885; Kuntze, Rev. Gen. Pl. 2: 505. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 560 & 561. 1893; Stapf, Trans. Linn. Soc. Lond. Bot., ser. 2, 4: 216 (1894) and ser. 2, 4: 522. 1896; Skeat, Journ. Roy. Asiat. Soc. Straits 31: 34. 1898; Koord. & Valet., Meded. Lands Plant. Bot. 42 [Beijdr. Booms. Java]: 212--213. 1900; Ridl., Agric. Bull. Straits Fed. Mal. St. 1: 219. 1902; Gamble in King & Gamble, Journ. Asiat. Soc. Beng. 74 (2 extra): 826 & 829--830. 1908; Ridl., Journ. Roy. Asiat. Soc. Straits 53: 84. 1910; Koord., Exkursionsfl. 3: 137 & 138. 1912; Koord. & Valet., Atlas Boomsart. Java pl. 277. 1914; Backer, Tropische Natuur 5: 92. 1916; H. Hallier, Meded. Rijks Herb. Leid. 37: 73. 1918; H. J. Lam, Verbenac. Malay. Arch. 250, 362, & 363. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 74, 83--84, 108, & viii. 1921; E. D. Merr., Bibl. Enum. Born. Pl. 516. 1921; E. D. Merr., Enum. Philip. Flow. Pl. 3: 406. 1923; Ridl., Fl. Malay Penins. 2: 624 & 625. 1923; S. Moore, Journ. Bot. Brit. 63: Suppl. 81. 1925; E. D. Merr., Univ. Calif. Publ. Bot. 15: 264. 1929; Burkill & Haniff, Gard. Bull. Straits 6: 234. 1930; Stapf, Ind. Lond. 2: 238. 1930; P'ei, Mem. Sci. Soc. China 1 (4): 153 & 154. 1932; Hochr., Candollea 5: 193 [Pl. Hochr. 3: 19]. 1934; L. H. Bailey, List Florists Handl. Verb. mss. 1935; Beer & Lam, Blumea 2: 225. 1936; Fletcher, Kew Bull. Misc. Inf. 1938: 404, 407, 408, 424, & 426. 1938; Mold., Geogr. Distrib. Avicenn. 37. 1939; Mold., Prelim. Alph. List Inv. Names 18--21. 1940; Mold., Suppl. List Comm. Vern. Names 2, 6, 9, 11--13, 17--19, 21, & 23. 1941; Mold., Suppl. List Inv. Names 2. 1941; Mold., Alph. List Inv. Names 16--19. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 59, 61, 63--65, 72, & 89. 1942; Mold., Phytologia 2: 98. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 560 & 561. 1946; Mold., Alph. List Cit. 1: 77, 91, 192, 210, & 248. 1946; Mold., Alph. List Inv. Names Suppl. 1: 6. 1947; Mold., Alph. List Cit. 2: 584 (1948), 3: 718, 751, 774, & 840 (1949), and 4: 987, 1001, 1002, 1101, & 1241. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 136, 139, 143--146, 158, & 181. 1949; E. D. Merr., Journ. Arnold Arb. 33: 219. 1952; Gilliland & Jabil, Proc. Sympos. Humid Trop. Veg. 64. 1959; Anon., Kew Bull. Gen. Ind. 77. 1959; Mold., Résumé 175, 179, 187, 189--193, 197, 215, 260, 262, 265, 267, & 449. 1959; Mold., Résumé Suppl. 1: 13. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 560 & 561. 1960; Backer & Bakh., Fl. Java 2: 609 & 610. 1965; Burkill, Dict. Econ. Prod. Malay Penins. 1: 596. 1966; Mold., Résumé Suppl. 14: 8. 1966; Balan Menon, Malay. For. Rec. 27: 102. 1971; Mold., Fifth Summ. 1: 295, 299, 304, 322, 329, 358, 439, 444, & 448 (1971)

and 2: 864. 1971; Hyland, U. S. Dept. Agr. Pl. Invent. 178: 209 & 277. 1972; Mold., Phytologia 28: 454 (1974) and 34: 272. 1976; Mold., Phytol. Mem. 2: 284, 291, 295, 313, 320, 349, 385, 391, & 536. 1980; Mold., Phytologia 58: 183, 280, & 408. 1985.

Illustrations: Koord. & Valet., Atlas Baumsart. Java pl. 277. 1914.

A large, erect, mostly very glabrous, sometimes arborescent shrub, undershrub, or small tree, 1--10 m. tall; stems not fistular, to 10 cm. in diameter at breast height, often producing many root-suckers; bark pale yellow-brown; branches and branchlets slender, tetragonal or subtetragonal, glabrous or subglabrous to puberulent; leaves decussate-opposite, very often anisophyllous, the smaller of a pair sometimes even absent; petioles variable in length, 0.5--14 [mostly about 3] cm. long, semiterete; leaf-blades membranous or thin-membranous, fragile in drying, paler beneath, elliptic or oblong to oblong-lanceolate, oblong-obovate, or ovate, 5--25 [mostly about 10] cm. long, 1.5--15 [mostly about 4] cm. wide, apically acute or acutely acuminate or submucronate, marginally entire or subentire to shallowly or even coarsely crenate-exscutate-dentate near the apex or obscurely toothed to irregularly and distantly serrate above the middle towards the apex, basally rounded or obtuse to acute or cuneate, glabrous above or occasionally slightly pubescent on the venation, the "young scarcely pubescent" [*fide* Clarke]; secondaries very slender, 5 or 6 per side, the lowermost basal, arcuate-ascending; vein and veinlet reticulation sparse, open; inflorescence terminal, paniculate, foliose, 5--30 cm. long, very loose, glabrous to loosely short-pubescent or puberulent, the lower ramifications issuing from the axils of the uppermost leaves or very leaf-like bracts, the panicle much brachiate, the ramifications dark-purple, very slender; cymes 3--20-flowered, very loose, the lower ones often issuing from the axils of the uppermost often caducous leaves and slightly surpassing them, the upper ones subtended by linear bracts about 6 mm. long; peduncles very slender, 1--13 cm. long, numerous, red or dark-purple, axillary or penultimate; flowers small; buds green; pedicels filiform, lax, 5--13 mm. long; calyx campanulate, purple or red, 4--7 mm. long, externally (dorsally) glabrous or minutely puberulent with both long and short hairs, 5-parted nearly to the base, the lobes ovate to narrowly or broadly lanceolate or oblong-lanceolate, 3--4 mm. long, apically acuminate, connivent during anthesis, ventrally glabrous; corolla hypocrateriform, mostly white to yellow, the throat usually not violet, externally glabrous or villosulous, the tube very slender, 2--3.5 cm. long, about 5 times as long as the calyx, the segments nearly obovate or spatulate, 6--15 mm. long; stamens about twice as long as the corolla, much exerted; filaments pale or yellowish, exerted by 1--1.5 cm.; stigma-lobes short and equal; fruiting-calyx somewhat accrescent, red, 2.2--2.5 cm. wide, enclosing only the base of the fruit, the lobes oblong, about 8 mm. long, somewhat longer than the tube, apically acuminate, decidedly reflexed; fruit drupaceous, at first green, then blue, and finally black when ripe, globose, about 6 mm. long and wide, succulent, glaucous.

This species is based on unnumbered Blume collections from the mountains of Salak, Seribu, etc., in Java. Blume's original (1826) description is: "*C. foliis oppositis longiter petiolatis oblongis acuminatis medio ad apicem repando-dentatis altero minore, panicula terminali brachiata laxa, caule subtetragono (aff. *C. calamitoso*: calix quinquepartitus, laciniis lanceolatis acuminatis; flores pallide flaventes). Crescit: in montanis Salak, Seribu, etc. Floret: toto anno. Varietas: foliis obsolete denticulatis. Crescit: in montanis Seribu. Observ.: folia ratione magnitudinis in haec specie secundum locum natalem valde differunt; in sylvis altioribus plerumque repando-dentata sunt et in ultraque pagina pube tenui obsessa; in sylvis contra humilioribus et locis calcareo-argillosis folia fere integerrima et glaberrima: se ostendunt." It would thus appear that his so-called "variety" is merely an edaphic form probably undeserving of special nomenclatural designation.*

Collectors have encountered *Clerodendrum disparifolium* in various types of forest - damp, evergreen, primary, secondary, and mixed deciduous - forest edges and clearings, waste ground, on high banks and hillsides, by waterfalls and cascades, and on granite outcrops, at 5--1500 m. altitude, in flower in every month of the year, and in fruit in May and June. Backer & Bakhuizen (1965) report that in Java it is found in brushwood, young forests, forest borders, and "rarely in primary forests". In Thailand Sørensen and his associates describe it as an undershrub in open oak-*Dipterocarpus* forests, while in Pahang Balgooy reports it from "dipterocarp forests in undulating country crossed by more or less dry streams".

The corollas are said to have been "yellow" on Forbes 2782 and Foxworthy 424, "pale-yellow" on Balgooy 2571 and Blume s.n., "white" on Docters van Leeuwen-Reijnvaan 6193 and Geesink & Santisuk 5394, "white with a tinge of green" on Forbes 2033, "greenish-white" on Rehsodihardjo 622, "yellowish-white" on Forbes 2113, "light-green" on Niyondham & al. 215, "green" on Ramos 1421, "violet-white" on Phengklai & al. 4092, and "tube brown-red, lobes yellow" on Meijer SAN. 44030. The Phengklai & al. 4092 collection bears the curious notation "stigmata 5" on its label.

Fernandez-Villar (1880) records *C. disparifolium* from Luzon, but Merrill (1922) insists that it does not occur anywhere in the Philippine Islands. Hallier (1918) gives its distribution as Malacca, Penang, Singapore, and western Java; Kuntze (1891) collected it in Singapore; Clarke (1885) refers to it as found "throughout Malaya, frequent in Malacca and Singapore". Burkill (1966) reports it from the western part of Malaysia, common in lowland forests throughout the Malay Peninsula. Fletcher (1938) knew it from Malaya and Java, but found it in cultivation in Thailand. Bailey (1935) listed only the Singapore Botanical Garden as source of seeds for the horticultural trade. Hyland (1972) reports it cultivated in Maryland from seedlings and cuttings collected in Indonesia by Winters & Higgins.

Vernacular names reported for *C. disparifolium* are "anting-anting", "chêlêguri", "chinaguri", "guriam", "kakapolan kai", "kêcholan", "kibangbara" [a name also applied to *C. calamitosum* L.], "lampin badak", "lampin budak", "lêlampang badak", "mengkoeboeng",

"pēncholam", "puding", "quilau", "sēlēguri", "sēlēguri bētiņa", "sēlulang bukit", "sēmbong", "sēmpayan pitu", "tampan putēri jantan", "tjantigie lebak", "tudong roman", "ubat tumbuh", "uloh-ulai", and "unting-unting".

The species is employed in Cochinchina in popular medicine as an antidote for venomous snakebite. Burkill (1966) reports that the roots may be pounded and rubbed over the body to alleviate pains, while a paste made from such pounded roots is packed into hollow teeth to cure toothache. He adds that "Alvins has left a note in which he calls it a vegetable, but apparently he referred to the use of the leaves with food for constipation."

Ridley (1902) reports the timber too small to be of use commercially, but it is one of the woods used for making a wood-tar for blackening teeth in Malaya. Burkill & Haniff (1930) also speak of the leaves being used to treat constipation, and, mixed with others, as a tonic. Skeat (1898) tells us that the leaves of this plant enter into the besom used to sprinkle consecrated rice gruel at weddings and in rice ceremonials in Malaya, "but not in ceremonies connected with a fishing-station".

The *Clerodendron acuminatum* Wall., mentioned in the synonymy (above) is based on Wallich 1792 from Singapore, collected in 1822, deposited in the East India Company herbarium at Kew, and *C. jackianum* Wall. is based on Wallich 1794 from Penang, also collected in 1822 and deposited in the same herbarium; *C. obtusidens* Miq. apparently was based on Horsfield s.n. deposited in the Utrecht herbarium as no. 49913.

Clarke (1885) notes that "Wallich's specimens exactly agree with those from Java, but the one species has been made into two [*C. disparifolium* Blume and *C. acuminatum* Wall.] because Blume's description of the panicle as terminal, which Schauer regarded as axillary." Hallier (1918) says that "Schauer und Clarke haben diese Art sehr zu Unrecht mit *Cl. inerme* Gaertn. in eine und dieselbe Gruppe gestellt, von dem sie in Kelch und Frucht grundverschieden ist."

Hasskarl (1855) first united *C. acuminatum* Wall. and Schauer's *C. eriosiphon* with the *C. disparifolium* of Blume, noting that "Species haec [*C. disparifolium*] hueusque nondum sufficienter nota inter *C. acuminatum* Wall. et *C. eriosiphon* Schauer collocanda est (DC. l.c. 662 n. 17, 18) et diagnosi sequenti fusiori distinguenda.

"Diagn. Glaberrimum ramis ramulisque tetragonis, foliis membranaceis petiolatis (inaequalibus in eodem pare), oblongo-lanceolatis basi acutis, apice acuminatis, integerrimis aut supra medium repandenticulatis, subtus pallidis opacis; cymis pedicellisque tenuibus laxis, lapsu foliorum paniculam laxam formantibus, apice plerumque foliiferam, folia sua dimidia tantum aequantibus; calyce glabro in anthesi conniventi, fructifero refracto, 5-partito, laciniis oblongis acuminatis; corollae tubo calycem suum 5-quies superante, filiformi. -- Folia ad 6 poll. longa, 2½ poll. lata; petiolus 2 poll. longus; pedunculi et cymae ramificationes atro purpurei; calyx purpureo-coloratus 2 lin. longus; fructifer auctus 3-linearibus; corolla flavescent; tubus 10 lin. longus; limbi lacinae angustae 3-lineares; stamina has duplo excedentis, pallide flavescentia.

"De *Clerodendron*-soorten zijn alle min or meer groote, doorof bij korte tusschenpoozen bloeiende heesters of boompjee, de meeste met prachtvolle bloemen. De hier vermelde is een boompje, dat in deze streken te huis behoort en de hoogte van 8--10 voeten bereikt, met opstaande bloemtros, waaruit de geelachtig witte bloemen aan horizontale zijtakjes ontluiken. Deze soort is zeer vruchtbaar zoo zelfs, dat zij soms met zwarte ronde bessen als behangen is. De inlandsche naam dezer em der beide volgende ist: Kibangbara....*Clerodendron eriosiphon* Schauer.....Observ. Valde haec praecedenti speciei [*C. disparifolium*] accedit, a qua autem diversa floribus majoribus et cymis minus gracilibus tomentosulis, corollae tubo villosa breviori. -- Calycis laciniae, in anthesi sunt erectae subconniventes, fructiferae patentissimae. Deze heeft de meeste overeenkomst met de voorgaande, wordt zelfs nog wel zoo kolossaal en komt ook in deze streken voor."

Backer & Bakhuizen (1965) keep *C. disparifolium* and *C. eriosiphon* separate by means of the following key characters"

1. Lower leaf-blade surface glabrous or only thinly and patently short-hairy on the venation, marginally entire or very shallowly incised, never coarsely or deeply dentate-serrate.....
C. disparifolium.
- 1a. Lower leaf-blade surface rather densely hairy on the venation and often also hairy between the veins. marginally entire or shallowly to coarsely exsculptate-dentate; cymes 7--20-flowered, leaf-blades 5--25 cm. long and 1.5--15 cm. wide, petioles 0.5--14 cm. long.....*C. eriosiphon*.

It should be pointed out here that the *Clerodendron nutans* of Jack, Malay. Misc. 1 (1): 17 (1820), was regarded by Wallich (1829) and some other authors as conspecific with what we now call *C. disparifolium*, but seems to be a quite distinct species, which will be discussed in the proper alphabetic sequence in the present series of notes -- it is distinct from the *C. nutans* of Wallich.

The *Clerodendron disparifolium* Bakh., referred to in the synonymy (above) is a synonym of *C. garrettianum* Craib, while *C. disparifolium* Hassk. is now regarded as belonging in the synonymy of *C. laevifolium* Blume. The *C. disparifolium* var. *kinabaluense* (Stapf) Bakh. is regarded by me as *C. kinabaluense* Stapf, and *C. disparifolium* var. *pubiflorum* Bakh. is *C. laevifolium* Blume.

Bakhuizen, based on his herbarium annotations, apparently regarded *Horsfield s.n.*, Koorders 34350b, and Winckel 368b, cited below, as representing what he called *C. disparifolium* f. *coriaceum* (Miq.) Bakh., while Backer 21004 and Herb. Hort. Bogor. XI.B were regarded by him as representing what he called *C. disparifolium* f. *eriosiphon* (Schau.) Bakh. [a form perhaps worthy of reinstatement. A f. or var. *prianganense* Bakh., a description of which I have as yet not been able to locate in any of his writings known to me, seems to be typified by Backer s.n. [Tjibodas], Beume 4354, Sapin 50, and Winckel 64b & 1180b, all from Java. Boerlage regarded Herb. Tjibodas A.12 as representing *C. eriosiphon* Schau.

For *Clerodendrum disparifolium* Clarke (1885) cites only unnumbered Griffith and Wallich collections from Singapore and Malacca; Hallier

(1918) cites for *C. disparifolium* Forbes 782 from Sumatra, Foxworthy 424 from Sarawak, and Korthals s.n. and Winkler 2260 from Borneo and for *C. eriosiphon* Forbes 2033, 2113, & 2470 from Sumatra, Korthals s.n. from Borneo, and Hallier 257 from Java. He notes for Forbes 2113 "Eine Form mit langen, dicht behaarten Kelchen".

From Thailand Fletcher (1938) lists Collins 85 & 1078, Garrett 899, Kerr 3495, 4357, 6702, 7762, 7821, & 19146, Lakshnakara 665, Marcan 484 & 2301, Put 2547, and Winit 643 & 1690.

It may be worth noting here that the Miquel (1858) reference in the bibliography of *C. disparifolium*, is cited by Hallier (1918) and other authors as "1856", but actually pages 705--960 were issued in 1858. Similarly, the Blume (1826) reference is sometimes cited as "1825", but pages 485--942 were not issued until 1826; the Miquel (1861) reference is sometimes cited as "1860", but pages 161--656 actually were not published until 1861.

Material of *C. disparifolium* has been misidentified and distributed in some herbaria as "*C. calamitosum* var.", *C. horsfieldii* Miq., *Polygala venenisa* Juss., and *Sterculia* sp. On the other hand, the Bruggemans 854, distributed as *C. disparifolium*, actually is *C. elmeri* Merr., while Bartlett 8195, Best 14135, Boeca 1842, 7842, 7944, & 8480, Blunnemeijer 3750, Clemens & Clemens 22566, Elmer 20287 & 20625, Haniff 7, Haniff & Nur 10094, Hochreutiner 1724, Khoo & Ming N.K.002, Maxwell 72-15, Medani SAN.91691, Pételot 1260, Scortechini 297a, Stone 10769, and Toroes 942, 1433, 2059, 2277, 2412, 2637, 2720, 3251, & 4772 are *C. laevifolium* Blume and Maxwell 71-90 is *C. laevifolium* var. *fletcheri* Mold.

Citations: THAILAND: Bunpheng 673 [Roy. For. Dept. 10767] (Ld); Collins 1078 (W--1700970); Geesink & Santisuk 5394 (Ac), 5431 (Ac); Niyondham & al. 215 (Ac); Phengklai, Tamura, Niyondham, & Sangha-chand 4092 (N); J. F. Rock 138 (W--1090141); Sørensen, Larsen, & Hansen 4632 (Cp). VIETNAM: McClure 7397 [Canton Chr. Coll. 253.7191] (I). MALAYA: Malacca: W. Griffith s.n. [1843] (Br), s.n. [1845] (Br), s.n. [Malacca] (L, Pd). Pahang: Balgooy 2571 (Ac, N); Purseglove 4324 (Ng--20204). Penang: Wallich 1794 (L). Singapore: Wallich 1792 (L). GREATER SUNDA ISLANDS: Java: Arnaud Gerkens 1 (Bz--19234); Arsin 154 (Bz--19219, Bz--19220, Bz--19221); Backer 1911 (Bz--19224), 12447 (Bz--19230, Bz--19232), 23249 (Bz--19229, Bz--19233), s.n. [27/12/1910] (Bz--19223), s.n. [Tjibodas] (Bz--19222); Bakhui-zen 125 (Bz--19177, Bz--19178), 638 (Bz--19216), 761 (Bz--19179), 882 (Bz--19208, N), 1503 (Bz--19214, Bz--19215), 4379 (Bz--19235), 4657 (Bz--19236); Beume 4354 (Bz--19218); Blume s.n. [Salak] (Mi-isotype), s.n. (N--isotype, Qu--isotype); Boerlage 453b (Mi); Hochreutiner 160 (E--1614560); Hallier 352 (Bz--19226, Bz--19227, Bz--19228, N); Horsfield s.n. (Ld--photo, N--photo, Ut--49911, Ut--49912); Jensen s.n. [9.12.1900] (Cp); Koorders 27105b [217*] (Bz--19187, Bz--25504), 27605b [490*] (Bz--19243, Bz--19244, Bz--19245, Bz--19248, Bz--25501), 32836b [1534*] (Bz--19237, Bz--19242), 34343b [2789*] (Bz--19173), 34350b [4063*] (Bz--19174), 36859b [1117*] (Bz--19246, Bz--19247), 39150b [75*] (Bz--19188, Bz--19189), 39547b [6*] (Bz--19239, Bz--19241), 41176b [382*] (Bz--19239, Bz--19240); Ploem 155 (N); Reinwardt s.n. (S); Sapin 50 (Mu); Scheffler s.n. (Bz--

19180, Bz--19181); *Steenis 1815* (Bz--19165); *Teijsmann s.n.* [1868] (Mi); *Winckel 63* (Ut--22883A), *64* (Ut--63843), *64b* (Bz--19209, Bz--19210, Bz--19212, Bz--19213, Ca--301397), *77b* (Bz--19217), *368b* (Bz--19176), *1180b* (Bz--19225, Ca--235838, Ut--80823), *s.n.* [13 Mrt. 1919] (Bz--25497); *Zollinger 1968* (S), *3598* (Br). Kalimantan: *Motley 912* (K, Ld--photo, Mi--photo, N--photo). Kambangan: *Backer 21004* (Bz--19182, Bz--19183, Bz--19184, Bz--19185, N, Ut--63842); *Berger 283* (Bz--19186). Krakatoa: *Docters van Leeuwen-Reijnvaan 6193* (Bz--19169, Bz--19170, Bz--19171, N). Sabah: *Meijer SAN.44030* (Sn--40678); *M. Ramos 1421* [field no. 350] (Ph). Sarawak: *Foxworthy 424* (Ph). Sumatra: *Blunnemeijer 3750* (K, N); *Docters van Leeuwen-Reijnvaan 5096* (Bz--19249, Bz--19250); *Pijl 323* (Bz--19254); *Rehsodihardjo 629* (Ac). LESSER SUNDIA ISLANDS: *Banka: Reijmann 3371H.8.* (Bz--19168). CULTIVATED: Java: *Herb. Hort. Bogor. V.A.N.10* (Bz--26491), *XI.8* (Bz--19175), *XI.G.81* (Bz--25790, Bz--26533, Bz, Bz), *XII.8.II.29* (Bz--26236, Bz--26237, Bz, Bz, Bz, Bz, N), *XII.8.III.22* (Bz--26238, N); *Herb. Hort. Bot. Jav. s.n.* (Pd); *Herb. Tjibodas A.7* (Bz--26493), *A.12* (Bz--26492, Bz--26494); *Teijsmann s.n.* [Hort. Bot. Bogor. 1860] (Le), *s.n.* [Hort. Bot. Bogor. 1867] (Le, Le), *s.n.* [Herb. Hort. Bogor. 1868] (K). Singapore: *Nur s.n.* [25 Oct. 1924] (Ba).

CLERODENDRUM DUMALE (Hiern) J. G. Baker in *Thiselt.-Dyer*, Fl. Trop.

Afr. 5: 519--520 [as "*Clerodendron*"]. 1900; B. Thomas, Engl.

Bot. Jahrb. 68: [Gatt. *Clerod.*] 90 & 93. 1936.

Synonymy: *Siphonanthus dumalis* Hiern, Cat. Afr. Pl. Coll. Welw. 1: 846--847. 1900. *Clerodendron dumale* J. G. Baker in *Thiselt.-Dyer*, Fl. Trop. Afr. 5: 519. 1900. *Clerodendron dumale* (Hiern) K. Schum., Justs Bot. Jahresber. 28 (1): 496. 1902. *Clerodendron dumale* K. Schum. apud Prain, Ind. Kew. Suppl. 3: 44. 1908. *Clerodendrum dumale* Schumach. apud B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 93 in syn. 1936.

Bibliography: J. G. Baker in *Thiselt.-Dyer*, Fl. Trop. Afr. 5: 519--529. 1900; Hiern, Cat. Afr. Pl. Coll. Welw. 1: 846--847. 1900; L. Schum., Justs Bot. Jahresber. 28 (1): 496. 1902; *Thiselt.-Dyer*, Ind. Kew. Suppl. 2: 43 & 172. 1904; Prain, Ind. Kew. Suppl. 3: 44. 1908; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 90 & 93. 1936; Mold., Alph. List Inv. Names 17 & 40. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 50 & 89 (1942) and ed. 2, 118 & 181. 1949; Mold., Résumé 146, 262, 344, & 449. 1959; Mold., Fifth Summ. 1: 242 & 443 (1971) and 2: 622 & 865. 1971; Mold., Phytol. Mem. 2: 232 & 536. 1980.

A shrublet, 30--60 cm. tall; branches subterete, pale-brown, glabrate, inconspicuously lenticellate; branchlets softly pubescent-tomentose, leafy at the extremities; buds tomentose; leaves decussate-opposite, short-petiolate; petioles 3--6 mm. long; leaf-blades ovate or oval-obovate to oblong or elliptic, 2.5--3.7 cm. long, 1.2--1.8 cm. wide, apically obtuse or acute, marginally entire or nearly so, basally narrowed or cuneate, firmly chartaceous, closely clothed with short, stiff, pale hairs and minute glands especially beneath, pale-green, the floral ones smaller; inflorescence terminal or subterminal, somewhat leafy and bracteose, rather lax, 5--10 cm. long, hispid-tomentose, the primary ramifications patent, brachiate; pe-

duncle 0.6--3.1 cm. long; pedicels up to 1.2 cm. long; bractlets spatulate or subulate; flowers rather numerous; calyx shortly and obliquely campanulate, 5--6 mm. long, externally minutely glandulose and beset with short, whitish, stiff hairs, internally glabrous, shortly lobed, the lobes apically rounded or obtuse, basally imbricate, marginally ciliate or ciliolate; corolla blue, the tube 6--18 mm. long, 3 mm. wide, oblique, ventricose, externally minutely glandulose, the limb subbilabiate, spreading, venose, unequally 5-lobed, the lobes oval or obovate, 8--12 mm. long, apically rounded, the throat shaggy, slit down one side; stamens 4, subdidynamous, exserted; filaments apically glabrous, basally shaggy, inserted at the base of the corolla-throat, 1.8--2.1 cm. long; anthers 1.5 mm. long, glabrous; ovary glandular-squamulose; style equalling or somewhat surpassing the stamens, glabrous; stigma bifid; fruit drupaceous, quadrate-globose, 8 mm. long and wide, somewhat compressed, furrowed down the two sides.

This species is based on *Welwitsch* 3914, 5760 and 5763 from thickets near Lopollo, Huila, Angola, where it was growing in association with *Psiadia arabica* Jaub. & Spach and *Duranta repens* L. in flower in October 1859 and in fruit in January 1860. Hiern (1900) comments that "This belongs to the section *Cyclonema* and comes near to *S. (Cyclonema) discolor* (Kl.) and to *S. (Clerodendron) Neumayeri* (Vatke)."

Since Baker (1900) cites Hiern's binomial to correct volume and page, while Hiern (1900) does not mention Baker's binomial, I am assuming that Hiern's work appear earlier in 1900 than did that of Baker. Schumann's reference (1902) is sometimes also cited as "1900" but was not actually published until 1902.

Thomas (1936) comments that he knew this taxon only from its original description, but that it obviously is a member of the Subgenus *Cyclonema*. I, also, know nothing of the species beyond what is given in its bibliography (above).

CLERODENDRUM DUSENII Gürke, Engl. Bot. Jahrb. 28: 293 [as "*Clerodendron*"]. 1900; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 42, 76, & 93. 1936.

Synonymy: *Clerodendron dusenii* Gürke, Engl. Bot. Jahrb. 28: 293. 1900. *Clerodendron barteri* J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 298. 1900.

Bibliography: J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 293, 298, & 518. 1900; Gürke, Engl. Bot. Jahrb. 28: 293. 1900; K. Schum., Justs. Bot. Jahresber. 28 (1): 495. 1902; Thiselt.-Dyer, Ind. Kew. Suppl. 2: 43. 1904; S. Moore, Journ. Bot. Brit. 57: 248. 1919; Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 1, 2: 273 & 274. 1931; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 16, 42, 76, & 93. 1936; Mold., Alph. List Inv. Names 16. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47 & 89. 1942; H. N. & A. L. Mold., Pl. Life 2: 49 & 57. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 112, 113, & 181. 1949; Mold., Résumé 138, 139, 260, & 449. 1959; H. Huber in Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 2, 441 & 444. 1963; Mold., Résumé Suppl. 9: 3 (1964) and 15: 7 & 8. 1967; Mold., Fifth Summ. 1: 221, 223, 225, 242, 440, & 443 (1971) and 2: 865. 1971; Mold., Phy-

tol. Mem. 2: 212, 213, 215, 232, & 536. 1980; Mold., Phytologia 59: 109. 1986.

A scrambling undershrub or erect shrub, to 2 m. tall, with yellowish-brown or rusty pubescence; young branches and branchlets finely brownish-pubescent or puberulent; leaves mostly decussate-opposite, rarely ternate; leaf-scars wide and compact, 1 cm. long, somewhat recurved; petioles 1--2 cm. long, brownish-puberulent; leaf-blades moderately firm in texture, oblong, elliptic, or ovate to obovate-oblong or obovate, 6--15 cm. long, 4--8 cm. wide, about $1\frac{1}{2}$ times as long as wide, apically acuminate or cuspidate, marginally entire, basally angustate-rotund or cuneate, not cordate, green and glabrous above or slightly pubescent along the midrib, sparsely pubescent or puberulent only on the midrib and secondaries beneath, otherwise glabrous; inflorescence terminal, the cymes dense, about 5 cm. wide, pedunculate, the ramifications brownish-puberulent, forming a branched, mostly subcorymbose thyrse; bracts linear; pedicels short; flowers small; calyx campanulate, 2--4 mm. long, externally glabrous or minutely puberulent, 5-toothed, the teeth ovate or deltoid, small, spreading, nearly as long as the tube; corolla white or greenish-white, the tube cylindric, about 5 mm. long, twice as long as the calyx, the lobes obovate, about 2 mm. long; stamens 3 times as long as the corolla-limb; fruiting-calyx campanulate, basally narrowed into the pedicel, about 5 mm. long, externally very sparsely puberulent, 5-toothed, the teeth subtriangular, about 1.5 mm. long, basally about 1.5 mm. wide.

This species is based on *Dusen* 326 from Ssangille, Cameroons, collected on March 28, 1892, and deposited in the Berlin herbarium, now doubtless destroyed. *Clerodendron barteri* is based on *Barter* 51 from Brass on the Niger delta in Southern Nigeria.

Gürke (1900) says of *C. dusenii*: "Die Art ist am nächsten verwandt mit *Cl. scandens*; wahrscheinlich rankt sie in derselben Weise wie diese mit Hülfe der rückwärts gekrümmten Blattstielreste im Gebüsch empor. Obwohl Blüten in dem vorliegenden Material nicht vorhanden sind, zeigt sich doch an den abgeblühten Kelchen ein deutlicher Unterschied von *Cl. scandens*; die Kelchzähne sind bei der neuen Art deutlich 3-eckig. Ausserdem sind die jüngeren Zweige, die Blattstiele und die Nerven auf der Unterseite des Blattes mit bräunlich-gelben Flaum bedeckt, während sie bei *Cl. scandens* kahl sind."

Collectors have found this plant growing in thickets, in flower in March. The corollas are said to have been "greenish-white" on *Blickenstaff* 10, while Baker (1900) refers to them as "white".

Huber (1963) includes in the synonymy of this species the *Premna macrosiphon* of Baker, *Clerodendrum macrosiphon* (Baker) Thomas, *C. intermedium* Thomas, and *C. premnoides* Meeuse, but I regard all of these as synonyms of *C. thomasi* Mold., which see. Huber cites *Barter* 51, *Brenan* 9016, *Mann* 486, *Talbot* 1491 & 3122, and *Thomson* 28 from Southern Nigeria and *Maitland* 531 & 980 from Cameroons.

The Schumann (1902) reference in this species' bibliography is sometimes cited as "1900, apparently in error."

Baker's (1900) key for distinguishing this species from its small-flowered non-capitate relatives is as follows (with the nomenclature brought up-to-date):

1. Leaf-blades oblong.
2. Leaf-blades glabrous.
3. Bases of old petioles indurated and persistent..
- 3a. Bases of old petioles not indurated.
4. Inflorescence small.....*C. glabrum*.
- 4a. Inflorescence a large compact thyrsoid panicle...*C. volubile*.
- 4b. Inflorescence a large subumbellate panicle....*C. triplinerve*.
- 2a. Leaf-blades slightly pubescent beneath.
5. Inflorescence small, compact.
6. Leaves small.....*C. glabrum* var. *vagum*.
- 6a. Leaves large.....*C. dusenii*.
- 5a. Inflorescence a large thyrsoid panicle.....*C. toxicarium*.
- 2b. Leaf-blades densely pubescent beneath.
7. Leaf-blades marginally entire.....*C. tanganyikense*.
- 7a. Leaf-blades marginally deeply crenate.....*C. kirkii*.
- 1a. Leaf-blades ovate, basally rounded.
8. Leaf-blades glabrous.
9. Leaf-blades 5--7.5 cm. long.....*C. melanocrater*.
- 9a. Leaf-blades 7.5--15 cm. long.....*C. silvaeanum*.
- 8a. Leaf-blades very pubescent.....*C. glabrum* var. *vagum*.
- 1b. Leaf-blades cordate-ovate, basally cordate.
10. Calyx 3 mm. long.....*C. polycephalum*.
- 10a. Calyx 4 mm. long.....*C. johnstoni*.
- 10b. Calyx 6 mm. long.....*C. pleiosciadium*.

Hutchinson & Dalziel (1911) distinguish *C. dusenii* from its nearest relatives as follows (the nomenclature, again, updated):

1. Inflorescence an elongated panicle.....*C. thyrsoidium*.
- 1a. Inflorescence a corymbose or slightly pyramidal cyme.
2. Leaf-blades basally cordate.....*C. polycephalum*.
- 2a. Leaf-blades not basally cordate.....*C. dusenii*.

Citations: LIBERIA: *Blickenstaff* 10 (Ld, Mi). CAMEROONS: *Dusen* 326 (Ld--photo of isotype, N--photo of isotype, N--fragment of isotype, S--isotype).

CLERODENDRUM EBURNEUM Chiov. ex Chiarugi, Webbia 8: 238--239 [as "*Clerodendron*"]. 1951; G. Taylor, Ind. Kew. Suppl. 12: 36. 1959. Synonymy: *Clerodendron eburneum* Chiov. ex Chiarugi, Webbia 8: 238. 1951

Bibliography: Chiarugi, Webbia 8: 238--239. 1951; G. Taylor, Ind. Kew. Suppl. 12: 36. 1959; Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 799. 1962; Mold., Phytologia 57: 34. 1985.

The original description of this obscure species is: "Frutex ramis ultimis ad basin 3--3,5 mm. crassis, cortice subburneo, lenticellis perminuti punctiformibus dense sparsis, et perminute puberulis. Folia facillime caduca 3--4-subverticillata, interdum solitaria, pseudoverticillis 1,5--2,5 cm. discretis; petiolus prope basin articulatus, 10--17 mm. lo., dense ut tota lamina ubique pilis perminute pubescens; laminae plus minusve carnosae, sicco crassae et rigidae valde corrugatae triangulares vel reniformi- vel ovato-triangulares, basi lateribus fere horizontaliter distentis integris, in media parte abrupte plus minusve breviter cuneatae et in petiolum

decurrentes, latera laminae antica grosse dentato-lobulata, dentibus 2--4 mm. lo. apice rotundatis, cum dente summo caeteris valde majore integro et cum dentibus imis caeteris minoribus, lamina e linea basali 1,5--3 cm. lo. 2,2--3,4 cm. la., pars basalis cuneata 3--7 mm. lo."

The species is based on *Corradi 8414* from Baidon, Somalia, collected on October 19, 1939. Cufodontis (1962) claims that the type locality lies in south-southeastern Ethiopia, but Taylor (1959) places it in what was then Italian Somaliland. Nothing further is known to me about this species.

CLERODENDRUM EKETENSE Wernham, Journ. Bot. Brit. 52: 32 [as "*Clerodendron*"]. 1914; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 35, 60, & 93. 1936.

Synonymy: *Clerodendron eketense* Wernham, Journ. Bot. Brit. 52: 32. 1914. *Clerodendrum ekatense* Wernh. ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47 & 89 sphalm. 1942.

Bibliography: Wernham, Journ. Bot. Brit. 52: 32--33. 1914; Fedde & Schust., Justs Bot. Jahresber. 42: 252. 1920; Prain, Ind. Kew. Suppl. 5, imp. 1, 61. 1921; Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 1, 2: 272. 1931; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 8, 35, 60, & 93. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47 & 89 (1942) and ed. 2, 113 & 181. 1949; Mold., Résumé 138 & 449. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 61. 1960; Mold., Résumé Suppl. 18: 6 & 9. 1969; Mold., Fifth Summ. 1: 221, 446, & 461 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 212 & 536. 1980.

A softly pubescent climbing shrub; branchlets softly pubescent; leaves decussate-opposite; petioles elongate, 3.5--5 cm. long, densely pubescent, the indurated base persistent; leaf-blades thinly membranous, broadly oval or ovate-elliptic, 10--16 cm. long, 7--10 cm. wide, apically very short-acuminate (the acumen itself very acute), basally rounded or subcordate, sparsely pilose above, more densely spreading-pilose on the venation beneath; secondaries very oblique; inflorescence thyrsoid or narrow-paniculate, about 10 cm. long and 6 cm. wide, rather crowded or lax, densely pubescent throughout; bracts very numerous, small, linear-lanceolate; pedicels 8--9 mm. long or longer; calyx large, 1.5--1.6 cm. long, externally minutely hispidulous, the lobes triangular-lanceolate or narrowly ovate, not more than 1 cm. long, apically acuminate and very acute, longer than the broadly campanulate tube, dorsally thinly pubescent; corolla 12--16 mm. long, scarcely exserted from the calyx, the tube comparatively short, about 1.7 cm. long, very slender, externally rather densely glandular-pilose especially apically, the lower slender portion 1.3 cm. long, the upper portion more or less ampliate, the lobes oblanceolate-oblong, 4.5 mm. long; stamens erect, not long-exserted, surpassing the corolla-mouth by only about 7 mm.

This species is based on *Talbot 3393* from Eket, Southern Nigeria, deposited in the herbarium of the British Museum in London. Hutchinson & Dalziel (1931) and Thomas (1936) each cite only the original collection, Thomas commenting that "Das vorliegende Material ist sehr dürftig".

Wernham (1914) comments that this is "A well-defined species, distinguished by its short soft pubescence, the ample thin oval leaves with long stiff stalks directed outwards and downwards, and the large calyxes with but a short length of the corolla exerted. The nearest allied species seems to be *C. Welwitschii* Gürke, but this has the corolla-tube nearly 4 cm. long."

Citations: NIGERIA: Southern: Talbot & Talbot 3393 [Mo. Bot. Gard. Type Photos A.843] (E--photo of type, Gz--photo of type, N--photo of type, W--photo of type).

CLERODENDRUM EKMANI Mold., Geogr. Distrib. Avicenn. 28 & 29 nom. nud. 1939; Phytologia 1: 445--446. 1940.

Synonymy: *Megalosiphon splendens* Ekman ex Mold., Prelim. Alph. List Inv. Names 32 in syn. 1940.

Bibliography: Mold., Geogr. Distrib. Avicenn. 28 & 29. 1939; Mold., Prelim. Alph. List Inv. Names 32. 1940; Mold., Phytologia 1: 445--446. 1940; Mold., Lilloa 6: 320. 1941; Mold., Alph. List Inv. Names 33. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 40, 43, & 89. 1942; Mold., Alph. List Cit. 1: 11. 1946; Hill & Salisb., Ind. Kew. Suppl. 10: 55. 1947; Mold., Lilloa 14: 22. 1948; H. N. & A. L. Mold., Pl. Life 2: 57. 1948; Mold., Alph. List Cit. 3: 837 (1949) and 4: 1257. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 98, 103, & 181. 1949; Mold., Résumé 116, 123, 319, & 449. 1959; Mold., Fifth Summ. 1: 181 & 195 (1971) and 2: 571 & 865. 1971; Troncoso, Darwiniana 18: 396--398 & 408, fig. 36 & 37. 1974; Mold., Phytologia 31: 384. 1975; Mold., Phytol. Mem. 2: 140, 177, 185, & 536. 1980.

Illustrations: Troncoso, Darwiniana 18: 397 & 398, fig. 36 & 37. 1974.

A low bush; branchlets slender, obtusely tetragonal, very densely villous-tomentose with long albidous hairs; nodes not annulate; principal internodes 1--3 cm. long; leaf-scars not conspicuous; leaves decussate-opposite; petioles slender, 5--17 mm. long, densely hirsute with long whitish hairs, flattened above, basally not noticeably annulate; leaf-blades membranous, rather uniformly dark-green on both surfaces, ovate or ovate-elliptic, 3.3--5.8 cm. long, 1.5--4 cm. wide, apically rounded or obtuse (in outline), marginally regularly serrate from base to apex with acute or bluntish antrorse teeth of uniform size throughout, basally rounded or subcordate to acute and usually somewhat prolonged into the petiole, densely villous on both surfaces with whitish hairs 1--1.5 mm. long, especially densely so on younger leaves and on the larger venation beneath; midrib slender, plane above, prominulous beneath; secondaries very slender, 4--6 per side, arcuate-ascending, mostly plane on both surfaces; vein and veinlet reticulation obscure or indiscernible on both surfaces, hidden by the dense pubescence; inflorescence axillary, cymose; peduncles very slender, about 1 cm. long, hirsute like the petioles; corolla hypocrateriform, white, the tube elongate, to 9 cm. long, narrow-cylindric, straight or somewhat curved, equal in diameter for its entire length or slightly ampliate below the apex, the limb spreading, 5-lobed, the lobes subequal; stamens wine-color.

This curious species, obviously a member of the Subgenus *Siphonanthus*, is based on an unnumbered H. Quiroga collection from San Ignacio, Posedas, Misiones, Argentina, collected on October 21, 1913, and deposited in the Delessert Herbarium in Geneva. It is named in honor of Erik Leonard Ekman who also collected it at the type locality and who regarded it as representing a new verbenaceous genus, *Megalosiphon*. Hatschbach refers to it as "rare" and found it in flower in February at 625 m. altitude. It is astonishing that a plant with such very large and showy flowers has been so infrequently collected.

Citations: BRAZIL: Paraná: Hatschbach 8868 (W--2692386). PARAGUAY: Anisits 2816 (S). ARGENTINA: Misiones: Ekman 2029 (S); Quizoga s.n. [San Ignacio] (Cb--type, Ld--photo of type, N--fragment of type, N--photo of type).

CLERODENDRUM ELACHISTANTHUM Merr. ex Mold., Known Geogr. Distrib.

Verbenac., ed. 1, 57 & 89 nom. nud. 1942; Li, Journ. Arnold

Arb. 25: 426 [as "*Clerodendron*"]. 1944.

Synonymy: *Clerodendron elachistanthum* Merr. ex Li, Journ. Arnold Arb. 25: 426. 1944.

Bibliography: Mold., Known Geogr. Distrib. Verbenac., ed. 1, 57 & 89. 1942; Li, Journ. Arnold Arb. 25: 426. 1944; Mold., Alph. List Inv. Names 6. 1947; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 131 & 181. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 56. 1953; Mold., Résumé 169, 262, & 449. 1959; Mold., Fifth Summ. 1: 287 & 443 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 277 & 536. 1980; Mold., Phytologia 59: 238. 1986.

A shrub, 1--8 m. tall; stems woody, erect, to 20 cm. in diameter; bark brownish-gray; branchlets brown, glabrous; leaves decussate-opposite; petioles 4--6 cm. long, glabrescent; leaf-blades chartaceous, ovate or cordate-ovate, 12--15 cm. long, 7.5--10 cm. wide, apically acuminate, marginally entire, basally broadly truncate or subcordate, 5-veined, glabrous above, minutely puberulent beneath; secondaries (including the basal ones) 4--6 per side, prominent; veinlet reticulation prominent on both surfaces; inflorescence terminal, paniculate, minutely puberulent, about 28 cm. long; peduncles 3 cm. long; primary inflorescence ramifications opposite, about 10 in all, the lower ones to 13 cm. long, dichotomously branched; bracts linear, to 5 mm. long; flowers minute, fragrant or ill-smelling, about 4 mm. long; bractlets about 1 mm. long; pedicels about 1 mm. long; calyx campanulate, about 2 mm. long, externally puberulent, the rim 5-dentate; corolla white or light-yellow, its tube 3--4 mm. long, externally puberulent, the limb 5-lobed, the lobes 1--2 mm. long; stamens 4, slightly exserted; style 4--5 mm. long; stigma bilobed, the lobes apically acute.

This species is based on W. T. Tsang 27743 from thickets on steep slopes at Pai-yun-an and its vicinity, in Ch'uan District, Kwangsi, China, collected on June 26, 1937, and deposited in the Arnold Arboretum herbarium. The collector reports that the plant is fairly common in the type locality. Li (1944) cites also Taam 824 from Kwangtung, where Taam says that it is also fairly common. It has been

collected in anthesis only in June. Tsang reports the corolla color as "white" and the flowers fragrant, while Taam describes the corolla as "yellow" and the flowers ill-smelling [perhaps due to ageing?].

Li (1944) comments that "This species is apparently near *Clerodendron cyrtophyllum* Turcz., but it is readily distinguished by the much broader leaves, the more elongated panicles, and the very small flowers". Material has been misidentified and distributed in some herbaria as *C. cyrtophyllum* Turcz.

Citations: CHINA: Kwangsi: Tsang 27743 (Ld--photo of isotype, W--1757020--isotype). Kwangtung: Taam 824 (Mi); Tso 21153 (N).

CLERODENDRUM ELBERTI H. Hallier, Meded. Rijks Herb. Leid. 37: 83. 1918.

Synonymy: *Clerodendron elberti* H. Hallier apud H. J. Lam, Verbenac. Malay. Arch. 316. 1919.

Bibliography: H. Hallier, Meded. Rijks Herb. Leid. 37: 83. 1918; H. J. Lam, Verbenac. Malay. Arch. 316 & 363. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 94, 108, & viii. 1921; A. W. Hill, Ind. Kew. Suppl. 6: 49. 1926; Beer & Lam, Blumea 2: 224. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 66 & 89. 1942; H. N. & A. L. Mold., Pl. Life 2: 58. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 147 & 181. 1949; Mold., Résumé 197 & 449. 1959; Mold., Fifth Summ. 1: 330 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 320 & 536. 1980; Mold., Phytologia 58: 216. 1985.

A shrub; branchlets fistular, round in cross-section, 4--7 mm. in diameter, glabrous, the younger ones olivaceous in drying; leaves decussate-opposite; petioles 2--10 cm. long, glabrous; leaf-blades chartaceous, subcordate-rotundate, 6.5--21 cm. long, 4.5--14.5 cm. wide, apically acuminate, marginally entire, basally subcordate or rounded, completely glabrous on both surfaces, covered with minute caducous scales above; inflorescence paniculate, terminal, to 24 cm. long and 25 cm. wide, glabrous, many-flowered, the ramifications often 3 or 4 times bifurcate, terminating in cincinni; peduncles about 4 cm. long, glabrous; bractlets minute, linear-spatulate; pedicels 3--5 mm. long, glabrous; calyx membranous, wide, 3-parted for 2/3 to 3/4 its length, the segments always 3, ovate, 12--15 mm. long, basally 8 mm. wide, apically acute or acuminate, crimson, glabrous, irregularly venose; corolla glabrous, its tube slender, 1.8--2.5 cm. long, about twice as long as the calyx, apically somewhat infundibular, the upper portion externally glanduliferous, the lobes spatulate, 12 mm. long, 3 mm. wide, apically obtuse, dorsally glanduliferous; stamens inserted in the throat of the corolla-tube, exerted about 4--5 cm.; style exerted 4--5 cm.; stigma shortly bifid; ovary 4-lobed, externally glabrous; fruiting-calyx accrescent, crimson, enclosing the immature fruit.

This curious species is based on *Elbert* 3977, in flower and young fruit, collected on December 23, 1909, at 10--60 m. altitude, at Kempong on Saleh Bay, in the Sultanate of Dompoh, Sumbawa, deposited in the Senckenberg, Buitenzorg, Leiden, and other herbaria. The species is closely related to *C. hettiae* H. Hallier "sed praeter alias notas paniculae ramis compluries dichotomis, floribus multo minor-

ibus, staminibus altissime exsertis bene distinctum" (Hallier, 1918). Hallier placed it in Section *Squamata*, but Lam (1919) erected a special Section *Tridens* for it and *C. hettæ*. Beer & Lam (1936) added a third species, *C. brassii*, from New Guinea, which "differs [from *C. elberti*] only in some minor points (bidentate calyx lobes, broader petals)". They claim that these three species are taxonomically related to the genus *Faradaya*, "a typical eastern genus (N. Borneo, Talaud, Moluccas, New Guinea, Australia, Polynesia)".

Nothing is known to me of *Clerodendrum elberti* beyond what is given in its bibliography (above).

CLERODENDRUM ELEGANS Manetti ex Lem., Jard. Fleur. 4: Misc. 47. 1855.

Synonymy: *Clerodendrum calamistratum* Hort. Belg. ex Lem., Jard. Fleur. 4: Misc. 48 in syn. 1855. *Clerodendron elegans* Manetti apud Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893. *Clerodendron elegans* "Manetti ex Lem." apud Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 108. 1921.

Bibliography: Lem., Jard. Fleur. 4: Misc. 47--48. 1854; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 560 & 561. 1893; H. J. Lam, Verbenac. Malay. Arch. 320 & 363. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 94, 108, & viii. 1921; Mold., Alph. List Inv. Names 16. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 72 & 89. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 560 & 561. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 158 & 181. 1949; Mold., Resume 215, 261, & 449. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 560 & 561. 1960; Mold., Fifth Summ. 1: 358 & 441 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 349 & 536. 1980.

The original description of this taxon reads as follows: "*Clerodendrum elegans* Manetti, Msc.?...C. Fruticosum canescens: ramulis teretiusculis; foliis longe petiolatis ovalibus vel ovato-rhombeis obtusiusculis basi attenuatis grosse et inaequaliter serrato-dentatis subtus nervosis; panícula terminali pyramidata nutante; pedunculis subtrifloris, pedicellis lateralibus bibracteolatis, calycibus campanulatis 5-fidis, laciniis lanceolatis acutis; corolla (alba) tubo pilosiusculo infundibulari gracili calyce quadruplo longiore, limbi lobis ovalibus obtusis involutis; staminibus styloque longe exsertis. Patria agnota, floret novembre in caldariis. Manetti. l. i. c. *Clerodendrum elegans* Manetti, in litteris! et in....? -- *calamistratum*? Hort.? -- (*Verbenaceae*). M. Manetti, inspecteur des jardins impériaux, à Monza (Lombardie), nous fait parvenir. pour en enrichir notre recueil, par l'entremise obligeante de M. Auguste Van Geert, horticulteur, à Gand, la description d'un *Clerodendrum*, qu'il regarde comme nouveau. Il l'avait reçu, il y a huit ans environ, de Belgique, sous le nom de *C. calamistratum*! nom mal écrit, peut-être, pour *C. calamitosum*; car rien dans la phrase spécifique de ce botaniste, phrase qui nous semble fort bien rédigée, ne fait allusion à de la frisure (*calamistratus*, frise au fer!). Ce ne saurait être ce dernier, dont le nouveau diffère de tout point; et d'un autre côté, nous ne connaissons pas de *C. calamistratum* dans les jardins belges. C'est un arbrisseau couvert d'une pubescence blanchâtre, à rameaux

cylindriques, à feuilles ovales, ou ovées-rhomboides, subobtus, à panicule pyramidale, dont les pédicellules triflores; les fleurs blanches, dont les corolles quatre fois plus longues que les calyces; les étamines et le style longuement exserts. Nous souhaitons que M. Manetti nous gratifie bientôt d'un dessin colorié, que nous nous empresserions de reproduire dans le Jardin fleuriste." The page is dated "les Juillet 1855".

Nothing is known to me of this taxon beyond this description which indicates that it was originally described from material cultivated in Italy. Neither Lam (1919) nor Bakhuizen (1921) could add anything further.

CLERODENDRUM ELLIOTTI Mold., Bull. Torrey Bot. Club 77: 396. 1950.

Bibliography: Mold., Bull. Torrey Bot. Club 77: 396. 1950; E. J. Salisb., Ind. Kew. Suppl. 11: 56. 1953; Mold. in Humbert, Fl. Madag. 174: 153, 216--218, & 267, fig. 35 (1). 1956; Mold., Résumé 155 & 449. 1959; Mold., Fifth Summ. 1: 259 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 248 & 536. 1980; Mold., Phytologia 58: 188. 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 267, fig. 35 (1). 1956.

A shrub, 1--2.5 m. tall; branches and branchlets rather slender, very finely puberulous, glabrescent in age, grayish-brown, rather conspicuously lenticellate, the lenticels round and small; twigs sparse, very slender, densely puberulent; nodes not annulate; principal internodes abbreviated, 0.5--2.5 cm. long; leaf-scars large and prominent on the younger parts; leaves decussate-opposite; petioles very slender, 1--2.2 cm. long, glabrous; leaf-blades thin-membranous, very fragile and brunescent in drying, elliptic, 2.5--8.5 cm. long, 2--2.5 cm. wide, apically short-acuminate, marginally entire, basally mostly acuminate, glabrous or subglabrous on both surfaces, more or less punctate beneath; midrib very slender, flat above, prominent beneath; secondaries very slender, flat above, very slightly subprominulous beneath, 4--7 per side, divergent-ascending, arcuately joined near the margins beneath; vein and veinlet reticulation mostly indiscernible on both surfaces; inflorescence axillary, cymose, few-flowered, often reduced to one flower; peduncles very slender, 12--17 mm. long, minutely puberulent; pedicels very slender, 5--15 mm. long, minutely puberulent; bracts foliaceous, 2 or 4 per cyme or caducous, 10--15 mm. long, stipitate; bractlets linear, 5--6 mm. long; calyx thinly membranous, brunescent in drying, elliptic-tubular, 2.5--3 cm. long, to 14 mm. wide at the mid-point, externally glabrous, 5-plicate, the rim 5-lobed, the lobes ovate, about 7 mm. long, apically attenuate-acuminate; corolla red, infundibular, its tube about 3.5 cm. long, slightly surpassing the calyx, externally very sparsely scattered-puberulent or puberulent with very minute hairs, the limb about 3 cm. wide, the lobes about 1.5 cm. long; stamens and style included by the limb; fruiting-calyx coriaceous, nigrescent in drying, about 3 cm. long, to 1.8 cm. wide, dorsally glabrate, obscurely veined, the rim conspicuously 5-lobed; fruit drupaceous, brown-purple.

This species is based on *G. F. Scott Elliot 2039* from dry rocky hills at Betsilec, near Yeanar, in the interior of Madagascar, col-

lected on February 3, 1990, and deposited in the Paris herbarium. The vernacular name, "asélo", is recorded by the collector.

Collectors have found this plant in flower in February, July, and October. A key to distinguish it from other Madagascar species will be found under *C. baronianum* Oliv. in the present series of notes.

Material of *C. ellioti* has been misidentified and distributed in some herbaria as *C. arenarium* Baker and *Barleria prionitis* Lindl. The Scott Elliot 3039 collection, cited below, is a mixture with *C. macrocalycinum* J. G. Baker.

Citations: MADAGASCAR: Decary 5533 (N, P); Scott Elliot 2039 (E--photo of type, F--photo of type, Ld--photo of type, N--photo of type, P--type), 3039 in part (K, N).

CLERODENDRUM ELLIPTIFOLIUM Merr., Philip. Journ. Sci. Bot. 7: 341--342 [as "*Clerodendron*"]. 1912; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 89. 1942.

Synonymy: *Clerodendron elliptifolium* Merr., Philip. Journ. Sci. Bot. 7: 341. 1912.

Bibliography: E. D. Merr., Philip. Journ. Sci. Bot. 7: 341--342. 1912; Fedde & Schust., Justs Bot. Jahresber. 40 (2): 335. 1915; H. J. Lam, Verbenac. Malay. Arch. 261 & 363. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 78, 94, 108, 111, & viii. 1921; Prain, Ind. Kew. Suppl. 5, imp. 1, 61. 1921; E. D. Merr., Enum. Philip. Flow. Pl. 3: 401. 1923; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 89 (1942) and ed. 2, 141 & 181. 1949; Mold., Resume 183 & 449. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 61. 1960; Mold., Fifth Summ. 1: 315 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 306 & 536. 1980.

A small tree or shrub, about 3 m. tall, glabrous except for the inflorescence; branches terete or obscurely angled, glabrous, the younger ones olivaceous, lenticellate; leaves decussate-opposite; petioles 3--3.5 cm. long, glabrous; leaf-blades chartaceous or submembranous, elliptic to elliptic-ovate, 12--15 cm. long, 7--11 cm. wide, olivaceous when dry, apically stoutly short-acuminate, marginally obscurely subundulate with incipient teeth 1--1.5 cm. apart, basally rather broadly rounded or sometimes very obscurely cordate, unicolored on both surfaces, glabrous and shiny above, dull and glabrous beneath; secondaries 5 or 6 per side, prominent, curvate, anastomosing; veinlet reticulation loose; inflorescence terminal, dense, many-flowered, cymose, subsessile or at least branched from the base, about 10 cm. wide, sparingly pubescent with short scattered hairs; bractlets acicular, 1--2.3 mm. long, pubescent; flowers numerous; calyx infundibular or somewhat cupuliform, about 6 mm. long, 3.5 mm. wide, the rim truncate and obscurely 5-toothed, narrowed to the acute base, externally sparingly pubescent with very short hairs; corolla white or nearly so, the tube slender, cylindric, about 18 mm. long, glabrous, the limb spreading, about 12 mm. wide, the lobes ovate or broadly oblong-ovate, apically rounded; ovary externally glabrous.

The species is based on Ramos Herb. Philip. Bur. Sci. 14463 from thickets at Panatayum, Camiguin de Dindinao, Philippine Islands, collected on March 20, 1912, and deposited in the herbarium of the

Philippine Bureau of Science, now doubtless destroyed. Merrill (1912) comments that this is "A characteristic species not, apparently, very closely allied to the other Philippine forms, although manifestly in the same group with *Clerodendron quadriculare* Merr., *C. mindorense* Merr., and *C. klemmei* Elm. It is distinguished by its elliptic, obscurely undulate leaves, and its dense, terminal, many-flowered, cymose panicles".

Bakhuizen (1921) suggests that *C. sahelangi* Koord. may possibly be conspecific with *C. elliptifolium*, but had no material of the latter for comparison.

Nothing is known to me of *C. elliptifolium* beyond what is given in its bibliography (above).

CLERODENDRUM ELMERI Merr., Univ. Calif. Publ. Bot. 15: 264--265 [as "*Clerodendron*"]. 1929; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62, 65, & 89. 1942.

Synonymy: *Clerodendron elmeri* Merr., Univ. Calif. Publ. Bot. 15: 264. 1929. *Clerodendron oblongifolium* Kochm., in herb.

Bibliography: E. D. Merr., Univ. Calif. Publ. Bot. 15: 264--265. 1929; A. W. Hill, Ind. Kew. Suppl. 8: 54. 1933; Fedde & Schust., Justs Bot. Jahresber. 59 (2): 416. 1939; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62, 65, & 89. 1942; H. N. & A. L. Mold., Pl. Life 2: 58. 1948; Mold., Alph. List Cit. 4: 1232 & 1260. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 141, 145, & 146. 1949; Mold., Resume 183, 192, 193, & 449. 1959; Mold., Fifth Summ. 1: 322 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 313 & 536. 1980.

An erect unbranched subshrub, about 0.5 m. tall, glabrous except for the inflorescence; stems simple, terete, tough, pale-gray, about 4 mm. in diameter; leaves decussate-opposite, in equal pairs; petioles 3--3.5 cm. long, deep-green, glabrous; leaf-blades membranous, lanceolate to oblanceolate, 15--22 cm. long, 3--5.5 cm. wide, pinninerved, apically narrowly and acutely acuminate, marginally entire, basally cuneate, glabrous and eglandular on both surfaces, deep-green and shiny above, much paler beneath, drying green above and only slightly paler beneath; secondaries about 11 per side, slender, distinct, arcuately anastomosing; veinlet reticulation loose; inflorescence terminal, paniculate, erect, pale-green, pedunculate, about 15 cm. long and 8 cm. wide, puberulent, the primary ramifications opposite, subpatulous, about 4 cm. long; bracts linear-lanceolate, 1--1.5 cm. long; buds descending; flowers horizontal, disposed in cymes on the primary inflorescence-branches; pedicels 5--8 mm. long; bractlets linear-lanceolate, about 2 mm. long; calyx deeply 5-fid, the lobes lanceolate, green, about 8 mm. long and 1.4 mm. wide, apically acuminate, sparsely glanduliferous, externally puberulent; corolla white, the tube slender, about 13 mm. long, externally puberulent, the lobes subequal, oblong-obovate to oblong, about 5.5 mm. long, 2--3 mm. wide, apically rounded, dorsally slightly puberulent; filaments exerted about 2 cm. from the corolla-mouth, dark-purple, glabrous; ovary subglobose, externally glabrous; fruiting-calyx red; immature fruit green.

This species is based on *Elmer 20534* from near Tawao, Sabah, deposited in the herbarium of the University of California at Berkeley.

Merrill (1929) comments that "As the species are arranged by Lam in his recent treatment of the Malaysian representatives of this genus, the form above described falls in the group with *Clerodendron nutans* Wall. and *C. macrophyllum* Blume, but it is remote from both". Collectors refer to it as "a roadside weed" in Sabah and have encountered it at 5500 feet altitude. Material has been misidentified and distributed in some herbaria as *C. disparifolium* Blume, *C. disparifolium* f. *prianganense* Bakh., and *Rubiaceae* sp.

Citations: GREATER SUNDA ISLANDS: Kambangan: Bruggeman 854 (Bz--19211, N). Sabah: Cockburn SAN.76818 (Sn); Elmer 20534 (Ca--312127--type, Du--165497--isotype, Ld--photo of isotype, Mu--isotype, N--photo of isotype).

CLERODENDRUM EMIRNENSE Bojer ex W. Hook., Curtis Bot. Mag. 56 [ser. 2, 3]: pl. 2925 [as "*Clerodendron*"]. 1829; Bojer, Hort. Maurit. 255. 1837.

Synonymy: *Clerodendrum* (*Volkamera*) *floribundum* Lindl., Edwards Bot. Reg. 12: pl. 1035 textu. 1827 [not *C. floribundum* R. Br., 1810]. *Egena erminensis* Raf., Fl. Tellur. 2: 85. 1837. *Clerodendron erminense* Hook. ex Raf., Fl. Tellur. 2: 85 in syn. 1837. *Clerodendrum floribundum* B. Reg. ex Steud., Nom. Bot. Pham., ed. 2, 1: 382 in syn. 1840. *Clerodendron floribundum* Hort. ex Schau. in A. DC., Prodr. 11: 661 in syn. 1847. *Clerodendron floribundum* Hort. Angl. ex Buek, Gen. Spec. Syn. Candoll. 3: 106 in syn. 1858. *Clerodendron floribundum* Lindl. apud Buek, Gen. Spec. Syn. Candoll. 3: 106 in syn. 1858. *Egena emirnensis* Rafin. apud Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 822. 1893. *Clerodendron emirnense* Woodrow, Gard. Trop., ed. 6, imp. 8, 437. 1910. *Clerodendron emirnense* Robledo, Lecc. Bot. 2: 499 sphalm. 1940. *Clerodendrum emirnense* "Bojer ex Hook." apud Mold. in Humbert, Fl. Madag. 174: 266. 1956. *Clerodendron emirnense* Bak. ex Mold., Résumé 262 in syn. 1959. *Clerodendron diversifolium* Lab., in herb. [not *C. diversifolium* L. C. Rich., 1940, nor Vahl, 1791].

Bibliography: Lindl., Edwards Bot. Reg. 12: pl. 1035. 1827; W. Hook., Curtis Bot. Mag. 56 [ser. 2, 3]: pl. 2925. 1829; Wall., Numer. List [49], no. 1791. 1829; Sweet, Hort. Brit., ed. 2, 415. 1830; Loud., Hort. Brit., ed. 2, 549. 1832; Bojer, Hort. Maurit. 255. 1837; Raf., Fl. Tellur., imp. 1, 2: 85. 1837; G. Don in Sweet, Hort. Brit., ed. 3, 549. 1839; J. Grah., Cat. Pl. Bomb. 158. 1839; Steud., Nom. Bot. Phan., ed. 2, 1: 382. 1840; Voigt, Hort. Suburb. Calc. 465. 1845; Walp., Repert. Bot. Syst. 4: 111. 1845; Schau. in A. DC., Prodr. 11: 661. 1847; Schnitzl., Icon. Fam. Nat. Reg. Veg. 2: 137 Verbenac. [3] & 137, fig. 1 & 2. 1856; Buek, Gen. Spec. Syn. Candoll. 3: 106. 1858; Woodrow, Gard. India, ed. 5, 419. 1889; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561 & 822. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 175. 1895; Woodrow, Journ. Bomb. Soc. Nat. Hist. 5: 12. 1899; T. Cooke, Fl. Presid. Bomb., ed. 1, 434. 1906; Woodrow, Gard. Trop., ed. 1 [Gard. India, ed. 6, imp. 8], 437. 1910; Stapf, Ind. Lond. 2: 238. 1930; Mold., Geogr. Distrib. Avicenn. 37. 1939; Mold., Prelim. Alph. List Inv. Names 19 & 22. 1940; Mold., Alph. List Inv. Names 17 & 21. 1942; Mold., Known

Geogr. Distrib. Verbenac., ed. 1, 53, 72, & 89. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561 & 822. 1946; Mold., Alph. List Cit. 1: 48 & 250. 1946; Raf., Fl. Tellur., imp. 2, 2: 85. 1946; Terrac., Trav. Lab. Mat. Med. Ecole Sup. Pharm. Paris 33 (3): 101. 1947; Mold., Alph. List Cit. 2: 352, 484, 560, & 562 (1948) and 4: 1141. 1949; E. D. Merr., Ind. Raf. 204. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 123, 158, & 181. 1949; Mold., Amer. Journ. Bot. 38: 325. 1951; Mold., Phytologia 4: 44. 1952; Mold. in Humbert, Fl. Madag. 174: 150, 156, 186--191, 266, & 267, fig. 30 (6--11). 1956; T. Cooke, Fl. Presid. Bomb., ed. 2, imp. 1, 2: 514. 1958; Mold., Résumé 155, 157, 215, 262, 263, & 272. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561 & 822. 1960; Mold., Resumé Suppl. 4: 11. 1962; T. Cooke, Fl. Presid. Bomb., ed. 2, imp. 2, 2: 514. 1967; Mold., Fifth Summ. 1: 260, 264, 358, 443, 444, & 461 (1971) and 2: 491 & 865. 1971; Mold., Phytologia 28: 448 (1974), 31: 395 (1975), and 36: 41. 1977; Mold., Phytol. Mem. 2: 248, 252, 349, 385, & 536. 1980; H. N. & A. L. Mold. in Dassan. & Fosb., Rev. Handb. Fl. Ceyl. 4: 456. 1983; Mold., Phytologia 57: 38 & 349 (1985) and 58: 181, 187, & 203. 1985.

Illustrations: W. Hook., Curtis Bot. Mag 56 [ser. 2, 3]: pl. 2925 (in color). 1829; Schnitzl., Iconogr. Fam. Nat. 2: 137 Verbenac. pl. 137, fig. 1 & 2. 1856; Mold. in Humbert, Fl. Madag. 174: 187, fig. 30 (6--8). 1956.

A shrub or small tree, to 6.5 m. tall, much branched and twiggy; main branches often quite stout; branchlets slender or very slender, gray or grayish, subterete or obscurely tetragonal, mostly conspicuously lenticellate, varying from densely to more or less sparsely short-pubescent, strigillose, or puberulent, glabrescent in age, often ternate or whorled; twigs very slender, subterete or obscurely tetragonal, grayish or brownish, densely short-pubescent with sordid-cinereous hairs, becoming less so in age; nodes not annulate; principal internodes 0.5--3 cm. long, often much more abbreviated on twigs, occasionally elongate to 6 cm.; leaves mostly decussate-opposite on younger plants or branches, sometimes ternate or quaternate on older branches, numerous, small; petioles very slender, mostly 1--10 mm. long, short-pubescent or strigillose-puberulent; leaf-blades thin-chartaceous or submembranous, bright-green above, often brunnescient in drying, lighter beneath, varying from ovate, oblong-ovate, oblong, or lanceolate to elliptic or obovate, 1--4.5 cm. long, 0.4--2.7 cm. wide, apically varying from blunt or rounded to acute or short-acuminate, marginally mostly entire or subentire, basally acute or acuminate, sometimes attenuate into the petiole, dark-green and varying from more or less pulverulent-puberulent to minutely puberulent or strigillose and minutely scabrous above but soon becoming glabrous and shiny, paler and densely punctate beneath and more or less strigillose-puberulent on the larger venation or sometimes over the whole lower surface, rarely subglabrate beneath; midrib very slender, flat or very slightly prominulous above, usually very slightly prominulous beneath; secondaries very slender, 3--5 per side, flat or obscure above, flat or very slightly subprominulous beneath, arcuate-ascending, joined at the margins; vein and

veinlet reticulation sparse, obscure or indiscernible above, obscure or rarely somewhat conspicuous beneath; inflorescence terminal, cymose or corymbose, small to large, congested and compact, mostly subumbelliform, densely many-flowered, usually 2--3.5 cm. long and wide, rarely to 5 cm. wide, shortly pubescent-strigillose throughout; peduncles very slender or mostly obsolete; cyme-branches often numerous, very slender, mostly 2--10 mm. long or rarely the lowermost longer, densely short-pubescent; foliaceous bracts sometimes present and leaf-like in all respects; bractlets and prophylla linear or setaceous, 1--3 mm. long, minutely puberulous or strigillose; pedicels mostly obsolete; flowers odorous; calyx campanulate, 1--2 mm. long and wide, mostly brunescent or nigrescent in drying, externally more or less strigillose, the rim apiculate-dentate, the apiculations mostly divergent, often reflexed; corolla hypocrateriform, varying from white, yellowish-white, or white tinged with purple to whitish-rose, rose, or mauve, sometimes pale-purplish or flesh-color, the tube very slender, cylindric, about 1 cm. long, externally minutely puberulent or glabrate, the limb about 5 mm. wide, the 5 lobes elliptic, about 3 mm. long and 1.5 mm. wide, subequal; stamens 4, inserted just below the mouth of the corolla-tube, long-exserted, projecting 1--1.5 cm. from the corolla-tube, 2 slightly shorter than the others; filaments rose-violet; style long-exserted, a little shorter than the stamens, rose-violet; stigma bifid, the branches apically acute; fruiting-pedicels obsolete or to 1 mm. long; fruiting-calyx campanulate, incrassate, usually to about 3 mm. long and 4 mm. wide, externally sparsely strigillose, the rim deeply and irregularly lobed; fruit drupaceous, subglobose, about 5 mm. long and wide, externally glabrous, at first yellowish, later nigrescent, 4-seeded, more or less included by the fruiting-calyx.

Hooker (1829) asserts that this species was "Discovered by Professor Bojer in waste and mountainous places about Tananarivou, the capital of the province of Emirne, in the interior of Madagascar. Seeds were communicated by that gentleman and by C. Telfair, Esq. to Mr. Barclay, at Bury Hill, in whose stove the plants produced blossoms in the month of February, 1824. From these our drawing was made: but it is only fair to observe that I have lately received from Mrs. Telfair a beautiful drawing of this plant, made in the Mauritius, from which it is evident, that the plant as it advances in age becomes larger in all its parts, especially in the leaves, which are twice or thrice the size of those here figured."

The species is known in the wild form only from Madagascar, but is cultivated in Mauritius and in various places in Europe and the United States. It is said to be used as a fumigant and to make a cooling herb-tea, but some collectors have asserted that it is said by natives to be very toxic. In its pubescence and dense terminal inflorescences it closely resembles *C. grevei* Mold. and is certainly also allied to *C. glabrum* var. *vagum* (Hiern) Mold. of southern Africa.

Common and vernacular names recorded for *C. emirnense* are "sasandroy", "small-flowered clerodendrum", "small-flowered Madagascar clerodendron", "tanikisky", and "varikitia".

What appears to be material of the type Bojer collection bears labels inscribed as *Clerodendron diversifolium* Lab. and *C. diversifolium* Vahl. The latter binomial has been regarded by some writers as a possible synonym of *C. emirnense*, but is now regarded as the name-bringing synonym of *C. paniculatum* var. *diversifolium* (Vahl) C. B. Clarke; the *C. diversifolium* credited to Richard belongs in the synonymy of *C. grandiflorum* (Hook.) Schau.

Collectors have encountered *C. emirnense* on dry hills and forested slopes, in dry forests and thickets, wet woods, forest and savoke remnants, and xerophyllous bush on limestone, as well as on gneiss and gneiss-laterite formations, at altitudes of 50--1200 m., in flower in February, April, May, September, October, and December. Loudon (1832) assert that it was introduced into cultivation in England in 1823 from Madagascar. In 1837 Bojer reported it cultivated in Mauritius, while in 1845 Voigt lists it as cultivated in the suburbs of Calcutta, India. Jafri & Ghafoor, in a personal communication to me in 1974, state that it is "Sometimes cultivated in gardens of Sind [Pakistan] as an ornamental". They cite *Ali s.n.*, *Saida s.n.*, and *Saida, Zaib, & Nuzhat s.n.*, describing the "flowers" as about 1 cm. across and the corolla-tube as "curved". Their statement that the original specimen was "a plant cultivated....in Mr. Barclays store" is a misinterpretation of Hooker's statement in his 1829 description of the plant as having been grown in Mr. Barclay's stove [i.e., hot-house].

The Copenhagen collection, cited below, is said to have been grown in the botanical garden greenhouse there from seeds that came from the West Indies -- the sheet, curiously, is annotated as "*Ricinus*" sp.

The corollas of *C. emirnense* are said to have been "white" on Croat 30950, Humbert 6759, *Qureshi s.n.*, and *Qureshi & al. s.n.*, "yellowish-white" on Humbert 12386 & 12871 "rose" on Catat 122, *Decary 2500*, and *LeMyre s.n.*, "rose or whitish-rose" on *Decary 6143*, and "mauve" on *Decary s.n.* The inflorescence on *Decary 699* is fasciated.

Woodrow (1889, 1910) describes the species as "A very useful shrubby species thriving in the Deccan [India] in fair soil when established without irrigation".

A very typical fruiting specimen of *C. emirnense* may be seen on *Perrier 10244* -- this should be compared with the very different fruiting clusters on *Baron 918* representing var. *diffusum* Mold.

It may be worth pointing out here that the Rafinesque (1837) publication, cited in the synonymy and bibliography (above), is often cited in botanical literature by the incorrect titlepage date of "1836". It should also be noted that the plate 1035 accompanying Lindley's 1827 article constitutes the type of *C. pubescens* Lindl. and apparently does not apply to the *C. floribundum* described by him in the text accompanying the plate.

Clerodendrum emirnense is said to be referred to by Willdenow in L., Sp. Pl., ed. 4, 3 (1): 387--388 (1800) or "3 (2). 1802", but I fail to find any reference to it there.

A key to distinguish *C. emirnense* and its subspecific taxa from related Madagascar taxa will be found under *C. baronianum* Oliv. in

the present series of notes.

Material of *C. emirnense* has been misidentified and distributed in some herbaria as *C. aucubifolium* Hemsl., *C. heterophyllum* (Poir.) R. Br., and *Ricinus* sp. On the other hand, the cultivated material from South Africa, distributed as typical *C. emirnense*, actually is its var. *diffusum* Mold., while *Boivin* s.n. [Madagascar, 1847-1852] is *Holmskioldia mira* Mold.

Citations: MADAGASCAR: Baron 539 (K, P), 656 (P); Bernard 96070 (P); Bojer s.n. (F--photo of type, K--isotype, L--isotype, Ld--photo of type, Mu--784--isotype, Mu--785--isotype, N--photo of type, P--type, P--isotype, P--isotype, Pd--isotype); Campenon s.n. [Fev. 1888] (P); Catat 122 (P); Croat 30950 (N); D'Alleisette 379m (P); Decary 699 (P), 713 (P), 2500 (P), 6143 (P, W--2495333), 6712 (P), 8533 in part (P), s.n. [Ilafy, 4.2.17] (P), s.n. [Beloha, 29.8.17] (P), s.n. [Beloha, 5.9.17] (P); Grevé s.n. [Mouroumvana] (P); Herb. Jard. Bot. Tananarive 271 (P); Humbert 6759 (P), 12386 (P), 12871 (P), 14394 (P); Humblot 641 (P, P); Lyall 86 in part (K), s.n. (Ed); LeMyre de Vilers s.n. [20 Octobre 1888] (P); Perrier 10201 (P), 10244 (N, P), 13219 (P); Telfair s.n. (N); Waterlot 686 (P), s.n. [rec. 21 Mai 1919] (P), s.n. (P, P). CULTIVATED: Austria: Herb. Reichenbach s.n. (V). Denmark: Herb. Hort. Bot. Hafn. s.n. [Semina ex Ind. occid.] (Cp, Ld--photo, N, N--photo). England: Herb. Hort. Barclay s.n. [15-7-30] (K, N). India: Woodrow s.n. [Poona Bot. Gard., May 1880] (K). Mauritius: N. J. Andersson 10 (P, S). New Jersey: Guyot s.n. [Princeton] (Pr). Pakistan: Qaiser s.n. [10-3-74] (Kh); Qureshi s.n. [12.10.1966] (Kh); Qureshi, Zaib, & Muzhat s.n. [25.3.1969] (Kh). Russia: Herb. Fischer s.n. [1832] (L). MOUNTED ILLUSTRATIONS: Hooker, Curtis Bot. Mag. 56 [ser. 2, 3]: pl. 2925 (Ba--380841, Ld).

CLERODENDRUM EMIRNENSE f. *DENTATUM* Mold., Bull. Torrey Bot. Club 77: 397. 1950.

Bibliography: Mold., Bull. Torrey Bot. Club 77: 397. 1950; Mold. in Humbert, Fl. Madag. 174: 187, 190, & 267, fig. 30 (9). 1956; Mold., Résumé 155 & 449. 1959; Mold., Fifth Summ. 1: 260 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 248 & 536. 1980; Mold., Phytologia 58: 186. 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 187, fig. 30 (9). 1956.

This form differs from the typical form of the species in having most or all of its leaf-blades marginally dentate above the middle with 1 or 2 apically blunt or subacute teeth on each side.

The form is based on *Waterlot 486* from the vicinity of Tananarive, Madagascar, collected in April, 1922, and deposited in the Paris herbarium.

Citations: MADAGASCAR: Greville 86 (Ed); Waterlot 29 (P), 486 (F--photo of type, Ld--photo of type, N--photo of type, P--type).

CLERODENDRUM EMIRNENSE var. *DIFFUSUM* Mold., Bull. Torrey Bot. Club 77: 397. 1950.

Bibliography: Mold., Bull. Torrey Bot. Club 77: 397. 1950; Mold., Phytologia 4: 44. 1952; Mold. in Humbert, Fl. Madag. 174: 187, 190--

191, & 267, fig. 30 (10 & 11). 1956; Mold., Résumé 155, 215, & 449. 1959; Mold., Fifth Summ. 1: 260 & 358 (1971) and 2: 864. 1971; Mold., Phytol. Mem. 2: 249, 349, & 536. 1980; Mold., Phytologia 58: 181 & 190. 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 187, fig. 30 (10 & 11). 1956.

This variety differs from the typical form of the species in having its cymes much more loose and diffuse during anthesis, mostly wide-spreading, the pedicels sometimes well developed and to 5 mm. long during anthesis, the calyx mostly 2--3 mm. long, the fruiting-pedicels well developed, to 7 mm. long under the terminal flowers, the fruiting-calyx about 4 mm. long and 6--7 mm. wide, and the fruit about 7 mm. long and wide.

The variety is based on an unnumbered Bojer collection [Kew 11. 675] from Madagascar, deposited in the Paris herbarium. The Baron 918 collection in the Paris herbarium exhibits an especially fine fruiting cluster. The variety is endemic to Madagascar, but apparently has been cultivated in France and South Africa. The vernacular name, "léha", has been recorded for it.

Cloisel describes this plant as a small tree, the corollas white; Decary 2822 is also said to have had white corollas. Parker refers to the plant as a small tree, 8--10 feet tall. It has been found growing in calcareous thickets and slopes, in tropophilous forests, and in xerophyllous bushland on limestone formations, at 100--350 m. altitude, in flower in June.

The Tepin collection, cited below, is a mixture with *C. heterophyllum* (Poir.) R. Br. The specimen cultivated in France, also cited below, was grown from seeds sent by Poisson, as no. F.211-A.599, collected at Tulear, Madagascar, in 1921.

Citations: MADAGASCAR: Baron 918 (K, P, P); Bojer s.n. [Kew 11. 675] (F--photo of type, Ld--photo of type, N--photo of type, N--isotype, P--type, P--isotype, P--isotype, Ut--115531b--isotype); Cloisel 36 (P); Decary 2822 (P), 4407 (P), 9563 (P), 9574 (P), 10715 (P); Hooker s.n. (T); Humbert 20002 (P); Lyall 86 in part (K); G. W. Parker s.n. [Andramasina] (K); Rutenberg s.n. [Abeloma, 1877] (P); Tepin s.n. [Herb. Reichenbach f. 134547 in part] (V). CULTIVATED: France: Herb. Mus. Paris s.n. (P). South Africa: Herb. Crooke s.n. [Garden of Baron von Ludwig] (N).

CLERODENDRUM ERECTUM DeWild., Feddes Repert. Spec. Nov. 13: 145 [as "*Clerodendron*"]. 1914; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 46, 83, & 93. 1936

Synonymy: *Clerodendron erectum* DeWild., Feddes Repert. Spec. Nov. 13: 145. 1914.

Bibliography: DeWild., Feddes Repert. Spec. Nov. 13: 145. 1914; Fedde & Schust., Justs Bot. Jahresber. 42: 252. 1920; Prain, Ind. Kew. Suppl. 5, imp. 1, 61. 1921; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 17, 46, 83, & 93. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 48 & 89 (1942) and ed. 2, 115 & 181. 1949; Mold., Résumé 141, 148, 426, & 449. 1959; Mold., Résumé Suppl. 1: 9. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 61. 1960; Bouquet, Invent. Pl.

Méd. Tox. Cong. Braz. 32. 1967; Mold., Fifth Summ. 1: 228, 235, & 245 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 217, 218, 225, 385, & 536. 1980; Mold., Phytologia 58: 358 (1985) and 59: 110. 1986.

A low subshrub or shrub, 0.7--1 m. tall; branches erect, to 40 cm. long, brachiate, glabrous or sparsely pilose; leaves decussate-opposite or whorled, the blades obovate-lanceolate, 5--13 cm. long, 0.9--2.1 cm. wide, marginally irregularly short-denticulate, basally long-attenuate, glabrous or sparsely pilose above, sparsely pilose beneath; inflorescence paniculate, more or less long-pedunculate and branched; peduncles to 5 cm. long; flowers subfasciculate in groups of 3 or more, pedicellate; pedicels to 5 mm. long, basally bracteolate; bractlets 2--4 mm. long; calyx 5--6 mm. long, externally glabrous or sparsely pilose, the lobes apically rounded, marginally ciliate; corolla zygomorphic, light-blue, its tube about 7 mm. long, curvate, externally glabrous or sparsely velutinous, the lobes unequal, about 7 mm. long, dorsally sparsely velutinous, marginally ciliate; stamens exerted about 2 cm. from the corolla-mouth, curvate; anthers 1.3 mm. long; style exerted; stigma bilobed, the lobes spreading and to 4 mm. long; fruit drupaceous, "double", black.

This species is based on *Ad. Hock s.n.* from the Upper Katanga region of Zaïre, collected in 1911, and deposited in the Brussels herbarium. DeWildeman (1914) comments that "*C. Corbisieri*, *C. Ringoeti* und *C. erectum* gehören zu der sehr wenig bekannten Gruppe von *C. myricoides*, und sind verwandt mit *C. luembensis* DeWild."

Bouquet (1967) lists *C. erectum* among his medicinal and/or poisonous plants of Congo Brazzaville, without specifying the use to which it is put. Collectors have encountered it at 1330 m. altitude, in flower in February and July, and in fruit in January and February.

Peter describes the leaves as somewhat leathery and the flowers "oberständig, wird dunkel". Thomas (1936) cites only the type collection, claiming that the stamens are exerted from the corolla-mouth by "höchstens 3/4 cm", but I suspect that he saw only immature flowers.

Material of *C. erectum* has been misidentified and distributed in some herbaria as *C. myricoides* var. *camporum* Gürke and as *Aeolanthus quarrei* DeWild.

Citations: ZAIRE: DeGiorgi 271 (Br, N), 280 (Br); Hock s.n. [1911] (Br--type, Br--isotype, Ld--photo of type, N--isotype, N--photo of type); Kevers 8.27 (Br, Br); Quarré 70 (Br), 3745 (Br, Br, Br), 4954 (Br); W. Robyns 1546 (Br, Br, Br, N). ZAMBIA: Vet. Officer CRS.327 (Af). TANZANIA: Tanganyika: Peter 35512 [V.135] (B), 35584 [V.136] (B), 36248 [V.146] (B), 36374 [V.147] (B), 37042 (B).

CLERODENDRUM ERIOPHYLLOIDES Mold., Phytologia 9: 183--184. 1962.

Bibliography: Mold., Phytologia 9: 183--184. 1963; Mold., Résumé Suppl. 7: 6. 1963; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Ind. 1963: 60. 1964; Hocking, Excerpt. Bot. A.7: 454. 1964; Mold., Résumé Suppl. 15: 7 & 8. 1967; G. Taylor, Ind. Kew. Suppl. 14: 34. 1970; Mold., Fifth Summ. 1: 239 & 250 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 229, 240, & 536. 1980.

A many-stemmed shrub, 2--5 m. tall; branches and branchlets slen-

der, rather densely grayish pilose with more or less antrorsely sub-appressed hairs, less so or glabrescent in age, obtusely tetragonal, the youngest ones sulcate; principal internodes 1--6.5 cm. long; leaf-scars large, corky, prominently elevated; leaves decussate-opposite or ternate; petioles slender, 1.4--2.4 cm. long, rather densely pilose like the branchlets; leaf-blades thin-chartaceous, oblong-ovate, 4.5--10.5 cm. long, 2.5--5.5 cm. wide, apically acute, marginally entire, basally acuminate, rather lightly short-puberulent above, more densely so beneath; midrib slender, flat above, prominulous beneath; secondaries very slender, 5 or 6 per side, arcuate-ascending, flat above, prominulous beneath; veinlet reticulation rather obscure on both surfaces; inflorescence axillary, clustered at the tips of the branchlets and appearing as though terminal, cymose, many-flowered, rather loose, not at all congested nor conglobate; peduncles very slender, 3--4 cm. long, rather densely antrorsely pilose like the branchlets, the individual cymes many times dichotomous, pilose like the peduncles; calyx obconic, its tube about 2 mm. long, the rim 5-aristate, the tube and teeth externally rather densely pilose; corolla hypocrateriform, white or cream-color, its tube very slender, about 9 mm. long, the limb about 6 mm. wide.

The species is based on *Mrs. Helen G. Faulkner 2785* from shade or semi-shade in coastal scrub at Chukwani, Zanzibar, collected on March 21, 1961, and deposited in the Stockholm herbarium.

The species has been collected in anthesis in January, March, and April, mostly close to the sea, from sealevel to 400 m. altitude. Torre & Paiva found it in "floresta aberta de *Brachystegia* spp., solos argiloso-arenosos negros" and "no recife de coral". They describe the corollas as "white" on their no. 10113 and "cream-color" on no. 12124. The former collection is described by George Taylor, in a personal communication to me dated June 13, 1966, as "A very close match to the type. It is likely that Torre & Paiva 12124 is also this species despite the narrower leaves."

Citations: TANZANIA: Zanzibar: *Mrs. H. Faulkner 2785* (Ld--isotype, S--type). MOZAMBIQUE: Cabo Delgado: Torre & Paiva 10113 (U1), 12124 (Ld, U1).

CLERODENDRUM EUCALYCINUM Oliv. in W. Hook., Icon. Pl. 23: pl. 2242 [as "*Clerodendron*"]. 1892; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 89. 1942.

Synonymy: *Clerodendron eucalycinum* Oliv. in W. Hook., Icon. Pl. 23: pl. 2242. 1892.

Bibliography: Oliv. in W. Hook., Icon. Pl. 23: pl. 2242. 1892; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 101. 1901; Stapf, Ind. Lond. 2: 238. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 101. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 89 (1942) and ed. 2, 123 & 181. 1949; Mold. in Humbert, Fl. Madag. 174: 148, 173--176, & 267, fig. 27 (3). 1956; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 101. 1959; Mold., Résumé 155 & 449. 1959; Mold., Fifth Summ. 1: 260 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 249 & 536. 1980; Mold., Phytologia 58: 185. 1985.

Illustrations: Oliv. in W. Hook., Icon. Pl. 23: pl. 2242. 1892;

Mold. in Humbert, Fl. Madag. 174: 175, fig. 27 (3). 1956.

A shrub or tree, to 8 m. tall; branches and branchlets rather coarse, gray, corky, glabrous, conspicuously raised-lenticellate; twigs more slender, gray, obtusely tetragonal or somewhat flattened, glabrous, conspicuously lenticellate; Nodes not annulate; principal internodes 2.5--4.5 cm. long; leaves decussate-opposite; petioles medium-slender, 4--12 mm. long, flattened and canaliculate above, glabrous, often slightly submargined above; leaf-blades thin-coriaceous, bright-green and shiny on both surfaces or slightly lighter beneath, obovate-elliptic or obovate, 5--16 cm. long, 1--6 cm. wide, apically mostly rounded or obtuse, sometimes acute or very shortly apiculate-acuminate, marginally entire or often slightly revolute, basally cuneate-attenuate or acuminate, glabrous on both surfaces; midrib slender or strong, mostly flat above, very prominent beneath; secondaries slender, 6--8 per side, flat above, sharply prominent beneath, divergent, slightly ascending, conspicuously arcuate-joined some distance from the margins beneath; vein and veinlet reticulation rather subprominulous on both surfaces; inflorescence axillary or terminal, usually concentrated at the tips of the branchlets, cymose, few-flowered, short-pedunculate or subsessile; peduncles mostly obsolete or nigrescent and glabrous; cyme-branches obsolete or 1--2 cm. long, nigrescent, compressed, stout, glabrous; pedicels stout, nigrescent, 1.3--2.5 cm. long, glabrous, shorter than the calyx; bracts oblanceolate-linear or spatulate, foliaceous, often 1--2.5 cm. long; bractlets ovate-triangular or linear, 2--5 mm. long; calyx coriaceous, nigrescent, heavy and firm, obconic-campanulate or tubular, 3--3.5 cm. long, 1.3--1.8 cm. wide, very obscurely parallel-veined, the rim 4-lobed, the lobes ovate, 4--5 mm. long, apically rounded or obtuse; corolla white, whitish-rose, or violet, 7.5--10 cm. long, its tube very narrow-cylindric except at the ampliate infundibular apex, 5--6 cm. long when fully developed, externally glabrous, the limb obliquely split, 3--5 cm. wide, the lobes 5, elliptic, about 2 cm. long, 1.2--1.5 cm. wide, apically rounded; filaments exerted 2--2.5 cm. from the corolla-mouth, glabrous; anthers oblong-elliptic, about 3 mm. long, versatile; style equaling the stamens; stigma bifid, the lobes subulate.

This endemic Madagascar species is based on *Baron 6263* collected in or before January, 1892, in Madagascar and deposited in the Kew herbarium.

Collectors have encountered this plant in jungles at 500 m. altitude, in flower in February and June. The corollas are said to have been "white" on *Decary 6*, "whitish-rose" on *Decary 2222*, and "violet" on *Hildebrandt 3899*.

A key to distinguish this species from its relatives in Madagascar will be found under *C. baronianum* Oliv. in the present series of notes.

Citations: MADAGASCAR: *Baron 6263* (F--photo of type, K--type, Ld--photo of type, N--photo of type, P--isotype); *Bellamy s.n.* [1886] (P); *Decary 2* (P), *6* (P), *2222* (P); *Hildebrandt 3899* (N, P); *Humbert 18063* (P); *Lemyre de Vilers s.n.* [1887] (P).

CLERODENDRUM EUPATORIoidES J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 293 & 295--296 [as "*Clerodendron*"]. 1900; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 33, 55, & 93. 1936

Synonymy: *Clerodendron eupatorioides* J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 293 & 295--296. 1900.

Bibliography: J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 293 & 295--296. 1900; K. Schum., Justs Bot. Jahresber. 28 (1): 495. 1900; Thiselt.-Dyer, Ind. Kew. Suppl. 2: 43. 1904; Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 1, 2: 273 & 275. 1931; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 33, 55, & 93. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47 & 89 (1942) and ed. 2, 113 & 181. 1949; Mold., Résumé 139 & 449. 1959; H. Huber in Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 2, 439 & 442. 1960; Mold., Résumé Suppl. 9: 3. 1964; Mold., Fifth Summ. 1: 223 & 444 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 213 & 536. 1980; Mold., Phytologia 58: 438. 1985.

An erect herb, 1.2--2 m. tall; stems and branches slender, herbaceous, deeply sulcate, finely glandular-pilose; internodes hollow; leaves decussate-opposite; petioles elongate, to 5 cm. long; leaf-blades membranous, ovate or deltoid-ovate, 6--10 cm. long, 4--6 cm. wide, apically acute or acuminate, marginally crenate or obtusely dentate, glabrate above, obscurely pubescent or puberulent on the venation beneath; inflorescence terminal, globose, dense, clustered; bracts lanceolate; calyx campanulate, 0.8--1.5 cm. long, externally pubescent, deeply divided almost to the base, the lobes linear or lanceolate, about 1 cm. long, much longer than the tube, less than 2 mm. wide; corolla white, about 3.3 cm. long, the limb oblique, 1.2--2 cm. long, the lobes oblong, subequal, not reaching to the base of the limb; stamens shorter than the corolla-limb; anthers large.

This puzzling species is based on Mann 1295, from 2000 feet altitude in the Cameroon Mountains of Cameroons, collected in flower in December and deposited in the Kew herbarium.

Because of the short stamens, included in the corolla, this species is placed into a monotypic Section *Stenocalyx* by Thomas (1936), who comments that "Das geringe Material gestattet keine Nachprüfung der Fruchtknotenverhältnisse; die Zugehörigkeit dieser Art zur Gattung ist daher noch nicht bewiesen". Huber (1963) agrees, saying: "This plant, the fruits of which are unknown, must be regarded as doubtfully belonging in *Clerodendrum*". For a key to distinguish it from some other African taxa, see under *C. capitatum* var. *conglobatum* (J. G. Baker) Thomas in the present series of notes.

Nothing is known to me of this taxon beyond what is give in its bibliography (above).

CLERODENDRUM EUROPAEUM Ettingsh. & Gardn., Proc. Roy. Soc. Lond. 30: 233 nom. nud. [as "*Clerodendron*"]. 1880; Mold., Prelim. Alph. List Inv. Names 19. 1940.

Synonymy: *Clerodendron europaeum* Ettingsh. & Gardn., Proc. Roy. Soc. Lond. 30: 233. 1880.

Bibliography: Ettingsh. & Gardn., Proc. Roy. Soc. Lond. 30: 233. 1880; Mold., Prelim. Alph. List Inv. Names 19. 1940; Mold., Alph. List Inv. Names 17. 1942; Mold., Known Geogr. Distrib. Verbenac., ed.

1, 75 & 89 (1942) and ed. 2, 166 & 181. 1949; Mold., Résumé 226, 262, & 449. 1959; Mold., Fifth Summ. 1: 375 & 444 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 368 & 536. 1985.

Ettingshausen & Gardner (1880) say merely that "Very diagnostic leaves of.....a *Clerodendron* allied to the East Indian *C. viscosum* Vent. are found, but rarely" in the Alum Bay, England, fossil beds of Early Tertiary age.

Nothing is known to me of this fossil species beyond what is stated in its meager bibliography (above).

CLERODENDRUM EURYPHYLLUM Mildbr., Notizbl. Bot. Gart. Berl. 11: 679--680 [as "*Clerodendron*"]. 1932; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 36, 63, & 93. 1936.

Synonymy: *Clerodendron euryphyllum* Mildbr., Notizbl. Bot. Gart. Berl. 11: 679--680. 1932.

Bibliography: Mildbr., Notizbl. Bot. Gart. Berl. 11: 679--680. 1932; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 9, 14, 36, 63, & 93. 1936; A. W. Hill, Ind. Kew. Suppl. 9: 68. 1938; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 571. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47, 49, 50, & 89 (1942) and ed. 2, 113, 116, 118, & 181. 1949; Mold., Résumé 144 & 449. 1959; Mold., Fifth Summ. 1: 235 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 225 & 536. 1980; Mold., Phytologia 58: 330. 1985.

A shrub, 2--4 m. tall; flowering branches apically villous with unequal, multicellular, spreading, pale-brown hairs, apparently later glabrescent; leaves among the largest in the genus, decussate-opposite; petioles 2--7 cm. long, villous; leaf-blades chartaceous, ovate-rotund or subrhomboid, 10--20 cm. long and wide, apically obtuse but the very apex itself broadly acuminate, marginally coarsely dentate (the teeth broadly subacute or obtuse and apically excurrent) and ciliate, basally broadly rounded or rarely the very base somewhat cordate with broad sinuses, rather densely pilose above with many-celled, weak, prostrate hairs, spreading-pilose on the venation beneath, the uppermost leaves beneath the inflorescence much smaller, subsessile, ovate, and apically long-acuminate; midrib more or less impressed above, prominent and spreading-pilose beneath; secondaries 6 or 7 per side, more or less impressed above and spreading-pilose beneath; vein and veinlet reticulation more or less impressed above and spreading-pilose beneath; inflorescence capitate, dense, subglobose, somewhat smaller than the leaves and raised somewhat above them, to 5 cm. long; calyx about 2.5 cm. long, violet-brown in drying, externally more or less scarious with weak many-celled hairs, the tube subcylindric below, narrowly infundibular-ampliate above, the lobes broadly lanceolate, erect, apically very long-subulate-acuminate, 18 mm. long and 4 mm. wide, with a thick midrib and slender pairs or reticulately joined veins on each side, marginally conspicuously long-ciliate; corolla white, its tube among the longest in the genus, to 17 cm. long and only 1.5 mm. in diameter, externally glandular-pubescent, the lobes oval or obovate-oblong, 1.5 cm. long, 5 mm. wide; stamens inserted in the corolla-tube; filaments exerted about 3 cm. from the corolla-mouth; anthers oblong,

about 3 mm. long; style exerted about 3 cm.; stigma shortly bifid.

This species is based on *J. J. Schlieben 2048* from a rocky savanna with groups of trees, at 1000 m. altitude, Mahenge, Tanganyika, collected in flower on April 6, 1932, and deposited in the Brussels herbarium. The collector notes that the plants grew very scattered among rocks. Mildbraed (1932) comments that the species is "Verwandt mit *Cl. angolense* Gürke und dem diesem sehr nahestehenden, wenn nicht mit ihm identischen *Cl. Poggei* Gürke, aber gut verschieden durch die eigenartige Blattform, die grossen Randzähne, die zottige Behaarung der oberen Stengelteile und die verhältnismässig wenigblütigen Blütenköpfe". It should be noted that I regard *C. angolense* and *C. poggei* as conspecific (see under *C. angolense* in these notes).

Mildbraed's detailed description of the leaf-blades is worth repeating here: "apice (toto ambitu) obtusa (lineis apices dentium superiorum conjungentibus inter sese angulum rectum vel etiam ampliorum includentibus), summo apice late acuminata, margine praeter basin integram grosse dentata, dentibus latis subacutis vel obtusis nervo excurrente apiculatis". His description of the inflorescence is: "Inflorescentia capitato-conferta et (quoad capitulum calycibus orformatum) pro folia parva et supra ea paulo elata".

Thomas (1936) erroneously cites the original description to page "107" instead of to pp. 679--680.

Thus far the species is known (to me) only from the original collection.

Citations: TANZANIA: Tanganyika: *Schlieben 2048* (B--isotype, Br--type, Ld--photo of isotype, Mu--isotype, N--fragment of isotype, N--photo of isotype, S--isotype).

CLERODENDRUM EURYPHYLLUM var. *GLABRUM* Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63. 1936.

Bibliography: B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47, 50, & 89 (1942) and ed. 2, 113, 118, & 181. 1949; Mold., Résumé 139, 146, & 449. 1959; Mold., Fifth Summ. 1: 223 & 242 (1971) and 2: 865. 1971; Mold., Phytol. Mem. 2: 213, 232, & 536. 1980.

This variety differs from the typical form of the species in having the leaves only sparingly hairy or even subglabrous.

The variety is based on *Tessmann 2076* from Nola Mbaiki, "Neu-Kamerun", Cameroons, collected on October 25, 1913, and deposited in the Berlin herbarium, now destroyed. Thomas (1936) cites also *Nolde 293* from Angola.

Nothing is known to me about this taxon beyond what is stated in its bibliography (above).

CLERODENDRUM EXCAVATUM DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: 132--134 [as "*Clerodendron*"]. 1909; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63 & 93 in syn. 1936.

Synonymy: *Clerodendron grandifolium* Gürke, Engl. Bot. Jahrb. 18: 173. 1893 [not *Clerodendrum grandifolium* Salisb., 1796]. *Clerodendron excavatum* DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: 132--133. 1909. *Clerodendron excavatum* var. *rotundum* DeWild., Ann. Mus.

Congo Belg. Bot., ser. 5, 3: 133 & 134, pl. 11, fig. 4. 1909.

Bibliography: R. A. Salisb., Prod. Stirp. Chap. Allert. 108. 1796; Gürke, Engl. Bot. Jahrb. 18: 173. 1893; J. G. Baker in Thiseit.-Dyer, Fl. Trop. Afr. 5: 294 & 307. 1900; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 101. 1901; DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: 132--134, pl. 11, fig. 4. 1909; DeWild., Etud. Fl. Bas- Moyen-Congo 3: 132--134, pl. 11, fig. 4 (1909) and 3: 468. 1912; DeWild., Bull. Roy. Soc. Bot. Belg. 51 (3) [ser. 2, 1]: 192. 1913; DeWild., Compt. Rend. Hebdmad. Seanc. Mem. Soc. Biol. 72: 582--584. 1920; Bequaert in Wheeler, Bull. Amer. Mus. Nat. Hist. 45: 443--444. 1922; DeWild., Pl. Bequaert. 2: 261. 1922; Stapf, Ind. Lond. 2: 238. 1930; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 6--8, 37, 63, & 93. 1936; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 101. 1941; Mold., Alph. List Inv. Names 17. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47, 48, & 90 (1942) and ed. 2, 113, 115, & 181. 1949; Mold., Alph. List Cit. 1: 4: 1153. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 101. 1959; Mold., Résumé 139, 141, 216, 262, & 450. 1959; Grout de Beaufors & Schnell, Mém. Inst. Fond. Afr. Noire 75: 9 & 40--41, pl. 9, fig. E. 1960; Mold., Fifth Summ. 1: 223. 228, 358, & 444 (1971) and 2: 866. 1971; Mold., Phytol. Mem. 2: 214, 218, 349, & 537. 1980; Mold., Phytologia 57: 346 (1985) and 58: 303 & 442. 1985. Illustrations: DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: 43, pl. 11, fig. E. 1909; DeWild., Etud. Fl. Bas- Moyen-Cong. 3: pl. 11, fig. E. 1909; Grout de Beaufort & Schnell, Mém. Inst. Fond. Afr. Noire 75: pl. 9, fig. E. 1966.

An aromatic subshrub, shrub, or tree, 1--4 m. tall, or liana; branches hollow, probably myrmecophilous, glabrous, spinose; leaves decussate-opposite or sometimes subalternate or alternate, large, long-petiolate; petioles 3.5--9 cm. long, flattened and canaliculate above, articulate toward the base, the basal 6--9 mm. remaining as a spine after the leaves have fallen; leaf-blades oval or lanceolate-obovate to obovate, 25--30 cm. long, 12--14 cm. wide, apically more or less abruptly acuminate, marginally entire, basally attenuate to broadly cuneiform or rounded, glabrous on both surfaces; midrib conspicuous on both surfaces; 3 basal secondaries very conspicuous, impressed above, prominent beneath; inflorescence cauline or terminal, capitate or densely umbellate, long-pedunculate (or subsessile when cauline), bracteate; bracts often violet in color; bractlets and prophylla small, 1--2 (rarely 3) mm. long, subcylindric, elongate awl-shaped or subulate, much shorter than the peduncles, marginally sparingly beset with stiff hairs; pedicels 1--1.2 mm. long, apically gradually merging into the calyx-base; flowers inodorous, nutant; calyx infundibular or tubular-cyathiform, 1.8--2.5 cm. long, externally green or rose to rose-violet, internally reddish or violet-red, deeply 5-parted, the lobes ovate-lanceolate, basally 6--7 mm. wide, membranous, apically long-acuminate, glabrous on both surfaces but marginally sparingly ciliate with rather stiff, spreading, many-celled hairs, conspicuously prominent-veined; corolla long-tubular or hypocrateriform, mostly white or cream-color, the tube slender, 13--17 cm. long, externally glabrous, incurved, apically inflated, the limb 5-lobed, the lobes unequal; stamens very long-exserted; filaments about 4 cm. long, white; style pale-green,

about 17 cm. long.

The species is apparently based on *J. Solheid* s.n. from the vicinity of Yambuya, Zaire, collected in 1908, deposited in the Brussels herbarium. It is said by DeWildeman to have definitely cauline, not terminal inflorescences, thus differing from typical *C. grandifolium* Gürke. There is some question, also, whether *C. excavatum* is validly published and therefor available as the accepted designation for this taxon. DeWildeman (1909) seems to have proposed two varieties without a formal description of the species itself. Still, it seems rather obvious that he intended what he called *C. excavatum* var. *rotundum* to be the typical variety, with illustration, and it has been so regarded by Thomas (1936).

It is most unfortunate that the earlier name, *C. grandifolium* Gürke, an aptly descriptive name, is not available, since it is antedated by the *C. grandifolium* of Salisbury published 97 years earlier for the *Tsjeron theka* of Ray [now known as *Clerodendrum serratum* (L.) Moon]. I am indebted to my longtime friend and colleague, Dr. Rupert Barneby, for investigating this matter. Salisbury's proposal is: "*Grandifolium*. 2. *C.?* foliis lanceolatis serratis, subtus praesertim pulverulentis, nervosis, rigidis. Tsjerou Theka. Rheed. Hort. Mal. v. 4. p. 61. t. 29. Ex facie forsan hujus vel sequentis Generis."

Dr. Barneby, in a communication to me dated 27 January 1986, says: "There is a provision in the Code that rejects a name when its author expresses uncertainty about publishing it, or in what rank he publishes it. But a species that is described, and only its generic position questioned, has all the privileges and priorable qualities of a species squarely placed in its generic context. I don't think there is any way around Salisbury's intent to describe a new species, the query, in my opinion, being merely as to the genus adopted."

If Gürke's *C. grandifolium*, based on *Mechow* 530, from near the Quango [Kuango] River, Majakalla District, Angola, collected in flower in November 1880, is not available as the name for this taxon, then DeWildeman's *C. excavatum*, if, indeed, it be regarded as validly published, is the only other name available -- the question still remaining if it is really conspecific with Gürke's plant, as Thomas asserts that it is.

DeWildeman (1909) comments that the stems of this plant seem to be inhabited by ants of the genus *Crematogaster*, as they are in *C. angolense* Gürke, *C. triplinerve* Rolfe, *C. rotundifolium* Oliv., and *C. fistulosum* Becc. -- "Chez les *C. angolensis* et *excavatum*, les rameaux latéraux, naissant à l'aisselle des feuilles tombées, sont également creux mais leur cavité n'est pas en continuité avec celle du rameau principal; une cloison basilaire sépare les deux cavités."

Bequaert (1922) comments that "A number of species of *Clerodendron* have been found associated with ants, but the few published observations are too fragmentary to show whether any of the forms are true myrmecophytes. Among the African representatives, *Clerodendron excavatum* E. De Wildeman...is myrmecophilous according to certain observers, while others assert that its hollow stems are merely filled with water. At all events, ants were never found inside the stems

of that plant. At Penge, in January, 1914 (Coll. No. 2205), I collected on the bank of the Ituri River in the dense undergrowth of the forest a low bushy *Clerodendron* which may possibly be *C. excavatum*. The plant was 3 to 4 m. high and divested of leaves at that season of the year. Some of the branches, however, were covered with numerous, white, showy flowers, obliquely directed downward. No swelling or domatia could be found, but the internodes of stem and branches were normally hollow, due to the early resorption and drying up of the pith. Many of the hollow internodes contained nests, with a fertile queen, workers, brood, and newly hatched winged sexual forms of a small, unidentified ant. The insects entered and left by a circular entrance pierced through the wall about half-way between two nodes. In certain cases the partition at the nodes had not been removed, whereas in others the entire limb formed one continuous nesting cavity. An internode of one of the living branches was occupied by a nest of a small solitary bee belonging to the genus *Allodape*."

A key to distinguish at least some of the tropical African taxa of *Clerodendron* from the present species will be found under *C. buchneri* Gürke in the present series of notes.

Baker (1900) cites only the original type collection of *C. grandifolium*; Grout & Beaufort & Schnell (1966) cite Letouzey 2307 & 2349 from French Cameroons and Schlieben 2751 from Tanganyika. Thomas (1936) cites Mechow 530 and Solheid s.n. from Zaire and Zenker 516 from the Cameroons.

It may be noted here, in passing, that Gürke's original (1893) description of this species is sometimes cited as "1894", the titlepage date; similarly, DeWildeman's 1913 work is sometimes cited as "1912", again, the titlepage date. DeWildeman, in his 1922 work, mis-cites his 1909 discussion of this plant as on page "122" instead of page 132.

Collectors have encountered this plant on terra firma in virgin forests of *Scorodophloeus zenkeri* and of *Macrolobium dewevrei*, as well as in forests in general, at altitudes of 470--1000 m., in anthesis in January, May to July, and November.

The corollas are described as having been "white" on Gillardin 303 and Lebrun 1702, "cream" on Louis 9981, "creamy-white" on Louis 3836. "greenish-white" on Louis 6681, and "the tube pale-green, the lobes white or snow-white" on Louis 4226 & 10477.

Vernacular names reported for this species are "bakarotilu", "bimbu", "hortilu", "mbambake", "mbambake ya ngunda", "mudiantondo", "museke", "nganyahe", and "tmi".

The hollow stems are used by natives in Zaire to make whistles and pipe-stems. Louis refers to the plant as an "arbuste sciaphile" or "ombrophile", and speaks of the inflorescences as "très grosses ombelles subsessiles caulinaires; bractées florales violet-rouges". On Gille 269 one can see some opposite and some alternate leaves on the same specimen.

Renier 79, cited below, is a mixture with *C. capitatum* var. *vanderysti* Mold.; Vanderyst 19139 is a mixture with *C. fuscum* Gürke, while Vanderyst 9932 determined by Staner in 1937 as *C. grandifolium*

and by DeWildeman as *C. excavatum* var. *rotundum*, is a mixture of some amaryllidaceous flowers and unknown leaves.

Material of *C. excavatum* has been misidentified and distributed in some herbaria as *C. angolense* Gürke.

Citations: ZAIRE: Achten 761 (Br, Br, N); Boone 39 (Br, N); Callewaert s.n. (Br); DeGiorgi 1065 (Br, N); Deleval s.n. [Mayombe 1909] (Br); DeWulf 522 (Br), 596 (Br, N); Difor 97 (Br); G. Gilbert 1655 (Br); Gillardin 303 (Br, Br, Br), 590 (Br, Br, Br); Gille 269 (Br, Br, Br, Br, Br); Gillet s.n. [acc. 1924] (Br, Br, Br, N); Hulstaert 540 (Br); Lebrun 1702 (Br, Br); Ledoux & Huyghe 51 (Br); Lotwis 1035 (Br), 3836 (Br, N), 4226 (Br, Ld--photo, N--photo), 6681 (Br), 9981 (Br), 10477 (Br); Overlaet 985 (Br, Br); Pere Van 1 (Br); Renier 79 in part (Br); Solheid s.n. [Env. de Yambuya, 1906] (Br--type, Ld--photo of type, N--photo of type); Vanderyst 10909 (Br), 14814 (Br), 19139 (Br); Vermoesen 83 (Br). CULTIVATED: Zaire: Gillet s.n. [1926] (Br, Br, Br, Br, N); Schouteden 126 (Br, Br). MOUNTED ILLUSTRATIONS: DeWildeman, Étud. Fl. Bas- Moyen-Congo pl. 11, fig. 4. 1909 (N); Grout de Beaufort & Schnelle, Mem. Inst. Fond. Afr. Noire 75: 43, pl. 11, fig. E. 1966 (Ld, Z).

CLERODENDRUM EXCAVATUM var. *CUNEATUM* DeWild., Ann. Mus. Congo Belg. Bot., ser. 5. 3: 132--133, pl. 11, fig. 1--3 [as "*Clerodendron*"]. 1909; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63 in syn. 1936.

Synonymy: *Clerodendron excavatum* var. *cuneatum* DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: 132--133, pl. 11, fig. 1--3. 1909. *Clerodendrum grandifolium* var. *cuneatum* (DeWild.) Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63. 1936.

Bibliography: DeWild., Étud. Fl. Bas- Moyen-Congo 3: pl. 11, fig. 1--3. 1909; DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: 132--133, pl. 11, fig. 1--3 (1909) and ser. 5, 3: 468. 1912; Stapf, Ind. Lond. 2: 238. 1930; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 6 & 63. 1936; Mold., Alph. List Inv. Names 17. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47, 48, & 90 (1942) and ed. 2, 113, 115, & 181. 1949; Mold., Résumé 139, 141, 262, & 450. 1959; Mold., Fifth Summ. 1: 223, 228, & 444 (1971) and 2: 866. 1971; Mold., Phytol. Mem. 2: 214, 218, & 537. 1980.

Illustrations: DeWild., Ann. Mus. Congo Belg. Bot., ser. 5, 3: pl. 11, fig. 1--3. 1909; DeWild., Étud. Fl. Bas- Moyen-Congo 3: pl. 11, fig. 1--3. 1909.

This variety differs from the typical form of the species in its cuneiform leaf-blades and red corollas. It is based on Laurent 1913 from Mogandjo, Zaire, collected in March of 1906 and deposited in the Brussels herbarium..

DeWildeman's original (1909) description of the variety is: "Fru-tex 1--3 cm. alt. [obviously a typographic error for 1--3 m.]; ramis glabris, cavis, spinescentibus; foliis adultis plus minus longe petiolatis, glabris, petiolo 5.8 cm. longo, articulado; lamina basi cuneata, apice plus minus abrupte acuminata, 24--35 cm. longa et 9--12 cm. lata; nervis basilaribus 3, nervis lateralibus circ. 6--7, supra excavata, subtus prominentibus; floribus capitulatis, densis."

[to be continued]